2006/2007 INTERNATIONAL BUILDING CODE
Structural Code Development Committee

David P. Tyree, PE, CBO — Chair
Regional Manager
American Forest & Paper Association
Colorado Springs, CO

Perry A. Haviland, FAIA — Vice Chair
Haviland Associates Architects
Oakland, CA

Ronald A. Brendel, PE
Senior Plan Review Engineer
City of St. Louis
St. Louis, MO

Gary Y. K. Chock
President
Martin & Chock, Inc.
Honolulu, HI

J. Daniel Dolan
Professor
Washington State University
Department of Civil and Environmental Engineering
Pullman, WA

Wanda D. Edwards, PE
Director of Code Development
Institute of Business and Housing Safety
Wake Forest, NC

Thomas J. Faulkner, PE
Vice President, Director of Construction Services
Stewart Engineering
Morrisville, NC

Cole Graveen, PE, SE
Engineer III
Raths, Raths & Johnson, Inc.
Willowbrook, IL

Kirk Grundahl, PE
President
Qualtim, Inc.
Rep: Wood Truss Council of America
Madison, WI

Y. Henry Huang
Building Official
City of Tustin
Tustin, CA

Marcelino Iglesias
Code Specialist
State of New Jersey-Dept of Comm. Affairs-
Division of Codes & Standards
Trenton, NJ

M. R. Karim, Ph.D., SE
District Structural Engineer
Office of Statewide Health, Planning and
Development. State of California
Sacramento, CA

Yothin Ratanapeanchai
Senior Engineer
Development Services Department, Clark County
Las Vegas, NV

James H. Robinson, PE, SE
President
Robinson Associates Consulting Engineers
Rep: National Council of Structural
Engineers Association
Norcoss, GA

Norman Scheel
Owner
Norman Scheel Structural Engineer
Rep: National Council of Structural
Engineers Association
Fair Oaks, CA

Committee Secretary
Alan Carr, SE
Senior Staff Engineer
Code and Standards
International Code Council
Washington Field Office
Bellevue, WA

INTERNATIONAL BUILDING CODE STRUCTURAL COMMITTEE HEARING RESULTS

S1-06/07

Committee Action: **Approved as Submitted**

Committee Reason: Agreement with the proponent's reason which indicates that the proposal provides editorial cleanup as well as important coordination with the occupancy classifications in Chapter 3 of the IBC.

Assembly Action: **None**

S2-06/07

Committee Action: **Disapproved**

Committee Reason: There is considerable support for clarifying the Occupancy Category III and IV classifications that are based on the presence of hazardous materials, however concerns raised in testimony indicate that the proposed material quantities may not be appropriate. The committee encourages the proponent to address this during the public comment phase by seeking a consensus on the appropriate hazardous material quantities for classification as an Occupancy Category III or IV building.

Assembly Action: **None**

S3-06/07

Errata: Under Occupancy Category III, change the seventh bulleted item to read as follows:

Power-generating stations, water treatment facilities for potable water, waste water treatment facilities and other public utility facilities not included in Occupancy Category IV.

Committee Action: **Approved as Submitted**

Committee Reason: The proposal makes a minor change in the wording of the Occupancy Category table to provide agreement with the ASCE 7 load standard.

Assembly Action: **None**

S4-06/07

Committee Action: **Approved as Modified**

Modify proposal as follows:

TABLE 1604.5
OCCUPANCY CATEGORY OF BUILDINGS AND OTHER STRUCTURES

OCCUPANCY CATEGORY	NATURE OF OCCUPANCY
III	Buildings and other structures that represent a substantial hazard to human life in the event of failure including, but not limited to: • Covered ~~Buildings and other~~ structures whose primary occupancy is public assembly ~~Group A1, A2, A3, or A4~~ with an occupant load greater than 300 • Buildings and other structures with ~~containing Group E occupancies~~ elementary school, secondary school or day care facilities with an occupant load of greater than 250 • Buildings and other structures ~~containing Group B educational facilities~~ with an occupant load of greater than 500 for colleges or adult education • ~~Buildings and other structures containing Group I-2~~ Healthcare facilities ~~which provide care on a 24 hour basis for more than~~ with an occupant load of 50 or more resident patients but ~~which do~~ not having ~~contain~~ surgery or emergency treatment facilities • ~~Buildings and other structures containing Group I-3~~ Jails and detention facilities • ~~Buildings and other structures containing an occupancy, other than those listed above,~~ Any other occupancy with an occupant load of greater than 5000[a] • Power-generating stations, water treatment for potable water, waste water treatment facilities and other public utility facilities not included in Category IV • Buildings and other structures not included in Category IV containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released

(Portions of table not shown remain unchanged)

a. For purposes of occupant load calculation, occupancies required by Table 1004.1.1 to use gross floor area calculations shall be permitted to use net areas to determine the total occupant load.

Committee Reason: The proposal clarifies the calculation of occupant load for the purpose of Occupancy Category III determination where an occupant load exceeds 5000. The modification retains the current code text in favor of the other proposed clarifications to Occupancy Category III thresholds.

Assembly Action: **None**

S5-06/07

Committee Action: **Disapproved**

Committee Reason: There are concerns that the application of the proposed disproportionate collapse provisions would result in unintended consequences and that these provisions are arbitrary and unenforceable. The proposal would inappropriately place material requirements in Chapter 16. It is unclear whether a minor addition would trigger compliance for the entire structure. Terms such as "abnormal hazard" and "masonry cross-wall construction" are not clear. The definition of structural frame differs from Table 601 requirements. It is unclear if this difference is intentional or an oversight. The definition of key element contains a requirement for a 700 psf accidental design loading. The correct application of this load to the structure is not apparent. There are potential conflicts in the building class for Group R-3 occupancies. Also any residential building that can't comply with the IRC would need to comply with these provisions. It is unclear how the requirements that apply to specific types of construction would be applied to typical buildings that consist of combinations of various construction types.

Assembly Action: **None**

S6-06/07

Withdrawn by Proponent

S7-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This change clarifies the application of wood stress adjustments that are permitted when using the basic allowable stress load combinations.

Assembly Action: **None**

S8-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1605.1 General. Buildings and other structures and portions thereof shall be designed to resist the load combinations specified in Sections 1605.2 ~~or 1605.3~~ , 1605.3.1 or 1605.3.2 and Chapters 18 through 23, and the ~~special seismic~~ overstrength factor load combinations of Section 12.4.3.2 of ASCE 7 where required by Section 12.3.3.3 or 12.10.2.1 of ASCE 7. With the simplified procedure of ASCE 7 Section 12.14, the overstrength factor load combinations of Section 12.14.3.2 of ASCE 7 shall be used. Applicable loads shall be considered, including both earthquake and wind, in accordance with the specified load combinations. Each load combination shall also be investigated with one or more of the variable loads set to zero.

Committee Reason: This proposal clarifies application of the special seismic load combinations when using allowable stress design by referring to ASCE 7. The modification substitutes the ASCE 7 term "overstrength factor load combinations" for consistency with that document.

Assembly Action: **None**

Staff note: It will be necessary to update all section references remaining in the IBC to the deleted Section 1604.5 to refer to the ASCE 7 section added by the code change as well as correct the terminology to agree with that introduced in the modification.

S9-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: This code change was disapproved because the revision made by S10-06/07 was preferred.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Submitted**

Committee Reason: This change serves to eliminate the differences between balcony and deck live loads and adds needed clarity to the code language.

Assembly Action: **None**

S10-06/07

PART I — IBC
Committee Action: **Approved as Submitted**

Committee Reason: This code change removes the distinction between deck and balcony live loads in Table 1607.1, by requiring the minimum live load formerly applicable only to balconies. This approach was preferred over the options provided by S9-06/07, S11-06/07 and S12-06/07 because there was no justification provided for reducing the balcony live load.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: The committee preferred to disapprove this code change proposal and support the language proposed in S9-06/07.

Assembly Action: **None**

S11-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: This code change was disapproved because the revision made by S10-06/07 was preferred.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: The committee preferred to disapprove this code change proposal and support the language proposed in S9-06/07.

Assembly Action: **None**

S12-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: This code change was disapproved because the revision made by S10-06/07 was preferred.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: The committee preferred to disapprove this code change proposal and support the language proposed in S9-06/07.

Assembly Action: **None**

S13-06/07

Committee Action: **Disapproved**

Committee Reason: This code change was disapproved because the issue was resolved with the approval of S10-06/07.

Assembly Action: **None**

S14-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal deleted the permitted stress increases for guards and handrails because they are no longer needed with the unified ASD/LRFD formats provided in the material standards.

Assembly Action: **None**

S15-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed standard indicated that, in the opinion of ICC staff, the standard did comply with ICC criteria for referenced standards.

PART I — IBC STRUCTURAL
Committee Action: **Approved as Submitted**

Committee Reason: This code change makes an appropriate update to the latest edition of TIA-222 for antenna-supporting structures.

Assembly Action: **None**

PART II — IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: The revision of Section 3108 as proposed correlates with what is actually being applied in the field. In addition the proposal removes non building code related issues and leaves such issues to the standard itself.

Assembly Action: **None**

S16-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did not comply with ICC criteria for referenced standards, Section 3.6.3-1 readily available.

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved because it would incorrectly reference the wind tunnel test standard as an exception to the ASCE 7 wind load requirements. Doing so would allow designers to circumvent other applicable wind load requirements by performing a wind tunnel test. In addition the proposed standard is not in compliance with the ICC code development process since it is not yet readily available.

Assembly Action: **None**

S17-06/07

Committee Action: **Approved as Modified**

Modify proposal as follows:

1609.1.1 Determination of wind loads. Wind loads on every building or structure shall be determined in accordance with Chapter 6 of ASCE 7. The type of opening protection required, the basic wind speed and the exposure category for a site is permitted to be determined in accordance with Section 1609 or ASCE 7.Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions:

1. Subject to the limitations of Section 1609.1.1.1, the provisions of SBCCI SSTD 10 shall be permitted for applicable Group R-2 and R-3 buildings.
2. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of the AF&PA WFCM.
3. Designs using NAAMM FP 1001.
4. Designs using TIA/EIA-222 for antenna-supporting structures and antennas.
5. Wind Tunnel tests in accordance with Section 6.6 of ASCE 7, subject to the limitations in Section 1609.1.1.2.

1609.1.1.2 Wind tunnel test limitations. The lower limit on pressures for main wind-force resisting systems and components and cladding shall be in accordance with Sections 1609.1.1.2.1 and 1609.1.1.2.2.

1609.1.1.2.1 Lower limits on main wind-force-resisting system. ~~Pressures~~ Base overturning moments determined from wind tunnel testing shall be limited to not less than 80 percent of the design ~~pressures~~ base overturning moment determined in accordance with Section 6.5 of ASCE 7, unless specific testing is performed that demonstrates it is the aerodynamic coefficient of the building, rather than shielding from other structures, that is responsible for the lower values. The 80 percent limit may be adjusted by the ratio of the frame load at critical wind directions as determined from wind tunnel testing without specific adjacent buildings, but including appropriate upwind roughness, to that determined in Section 6.5 of ASCE 7.

1609.1.1.2.2 Lower limits on components and cladding. The design pressures for components and cladding on walls or roofs shall be selected as the greater of the wind tunnel test results or 80 percent or the pressure obtained for Zone 4 for walls and Zone 1 for roofs as determined in Section 6.5 of ASCE 7, unless specific testing is performed that demonstrates it is the aerodynamic coefficient of the building, rather than shielding from nearby structures, that is responsible for the lower values. Alternatively, limited tests at a few wind directions without specific adjacent buildings, but in the presence of an appropriate upwind roughness, shall be permitted to be used to demonstrate that the lower pressures are due to the shape of the building and not to shielding.

Committee Reason: This proposal implements in the code the limitations on wind load testing that are currently noted in the commentary to ASCE 7. The modification changes wind pressure to overturning moment to address that specific requirement.

Assembly Action: **None**

S18-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change places an appropriate limit on the prescriptive opening protection option utilizing wood structural panels by limiting their use to Groups R-3 and R-4.

Assembly Action: **None**

S19-06/07

PART I — IBC
Committee Action: **Approved as Modified**

Modify proposal as follows:

1609.1.2 Protection of openings. In wind-borne debris regions, glazing in buildings shall be impact-resistant or protected with an impact-resistant covering meeting the requirements of an approved impact-resisting standard or ASTM E 1996 and ASTM E 1886 referenced therein as follows:

1. Glazed openings located within 30 feet (9144 mm) of grade shall meet the requirements of the Large Missile Test of ASTM E 1996.
2. Glazed openings located more than 30 feet (9144 mm) above grade shall meet the provisions of the Small Missile Test of ASTM E 1996.

Exceptions:

1. Wood structural panels with a minimum thickness of 7/16 inch (11 mm) and a maximum span of 8 feet (2438 mm) shall be permitted for opening protection in one- and-two-story buildings. Panels shall be pre-cut so that they shall be attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be predrilled as required for the anchorage method and shall be secured with the attachment hard ware provided. Attachments shall be designed to resist the component and cladding loads determined in accordance with ASCE 7, with ~~permanent~~ corrosion resistant attachment hardware provided and anchors permanently installed on the building. Attachment in accordance with Table 1609.1.2 with ~~permanent~~ corrosion resistant attachment hardware provided and anchors permanently installed on the building is permitted for buildings with a mean roof height of ~~33~~ 45 feet (~~10 058~~ mm) or less where wind speeds do not exceed ~~130~~ 140 miles per hour (~~58~~ m/s).

2. Glazing in Occupancy Category I buildings as defined in Section 1604.5, including greenhouses that are occupied for growing plants on a production or research basis, without public access shall be permitted to be unprotected.
3. Glazing in Occupancy Category II, III or IV buildings located over 60 feet (18 288 mm) above the ground and over 30 feet (9144 mm) above aggregate surface roofs located within 1,500 feet (458 m) of the building shall be permitted to be unprotected

TABLE 1609.1.2
WIND-BORNE DEBRIS PROTECTION FASTENING SCHEDULE
FOR WOOD STRUCTURAL PANELS[a,b,c,d]

FASTENER TYPE	FASTENER SPACING (in.)		
	Panel span ≤ 4 foot	4 feet < panel span ≤ 6 feet	6 feet < panel span ≤ 8 feet
No. 8 Wood Screw based anchor with 2-inch embedment length	16	10	8
No. 10 Wood Screw based anchor with 2-inch embedment length	16	12	9
¼ Lag screw based anchor with 2-inch embedment length	16	16	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 4.448N,
1 mile per hour = 0.447 m/s.

a. This table is based on ~~130~~ 140 mph wind speeds and a ~~33~~ 45-foot mean roof height.
b. Fasteners shall be installed at opposing ends of the wood structural panel. Fasteners shall be located a minimum of 1 inch from the edge of the panel.
c. Anchors shall penetrate through the exterior wall covering with an embedment length of 2 inches minimum into the building frame. ~~into wood wall framing and concrete block or concrete~~. Fasteners shall be located a minimum of 2 ½ inches from the edge of concrete block or concrete.
d. Where panels are attached to masonry or masonry/stucco, they shall be attached using vibration-resistant anchors having a minimum ultimate withdrawal capacity of 1500 pounds.

Committee Reason: The proposal makes clarifications to the prescriptive option for protection of glazed openings and specifically requires permanent anchorage to be provided. The modification extends the wind speed and roof height limits to be consistent with the revised fastener spacing. The word permanent immediately preceeding "corrosion resistant" was also deleted to avoid confusion.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: There was insufficient technical data to support this change. A safety factor of 8 would be excessive. If this proposal were passed it would no longer allow the use of masonry screws. In addition, the increase in cost predicted to be from 33 to 53 percent was not justified.

Assembly Action: **None**

S20-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did comply with ICC criteria for referenced standards.

Committee Action: **Approved as Submitted**

Committee Reason: This code change adds a needed reference standard for protection of garage door openings.

Assembly Action: **None**

S21-06/07

Withdrawn by Proponent

S22-06/07

Committee Action: **Approved as Submitted**

Committee Reason: Where design flood elevations are not established, this proposal gives the needed guidance for making that determination and grants the building official the necessary authority to require that determination to be made.

Assembly Action: **None**

S23-06/07

Committee Action: **Approved as Modified**

Replace the proposal with the following:

1613.6.3 Automatic fire sprinkler systems. Automatic fire sprinkler systems designed and installed in accordance with NFPA 13 shall be deemed to meet the requirements of Section 13.6.8 of ASCE 7.

Chapter 35

NFPA

13- ~~02~~ 07 Installation of Sprinkler Systems

Committee Reason: The proposal recognizes automatic sprinkler systems installed under the 2007 edition of NFPA 13 as complying with the ASCE 7 seismic load provisions. The modification places this provision in a more appropriate code section.

Assembly Action: **None**

S24-06/07

Errata: Revise Item 1 of proposal to read as follows:

1613.6.3 Autoclaved aerated concrete (AAC) masonry shear wall design coefficients and system limitations. Add the following text at the end of Section 12.2.1 of ASCE 7:

For ordinary reinforced AAC masonry shear walls used in the seismic force-resisting system of structures, the response modification factor, R, shall be permitted to be taken as 3, the deflection amplification factor, C_d, shall be permitted to be taken as 3, and the system overstrength factor, Ω_o, shall be permitted to be taken as 2½. The maximum height for ordinary reinforced AAC masonry shear walls shall not be limited for buildings assigned to Seismic Design Category B, shall be limited to 160 feet (48768 mm) for buildings assigned to Seismic Design Category C, shall be limited to 65 feet (19812 mm) for buildings assigned to Seismic Design Category D, and is not permitted for buildings assigned to Seismic Design Categories E and F.

For ordinary plain (unreinforced) AAC masonry shear walls used in the seismic force-resisting system of structures, the response modification factor, R, shall be permitted to be taken as 1½, the deflection amplification factor, C_d, shall be permitted to be taken as 1½, and the system overstrength factor, Ω_o, shall be permitted to be taken as 2½. The maximum height for ordinary plain (unreinforced) AAC masonry shear walls shall not be limited for buildings assigned to Seismic Design Category B and is not permitted for buildings assigned to Seismic Design Categories C, D, E and F.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1613.6.3 Autoclaved aerated concrete (AAC) masonry shear wall design coefficients and system limitations. Add the following text at the end of Section 12.2.1 of ASCE 7:

For ordinary reinforced AAC masonry shear walls used in the seismic force-resisting system of structures, the response modification factor, R, shall be permitted to be taken as ~~3~~ 2, the deflection amplification factor, C_d, shall be permitted to be taken as ~~3~~ 2, and the system overstrength factor, Ω_o, shall be permitted to be taken as 2½. ~~The maximum height for o~~ Ordinary reinforced AAC masonry shear walls shall not be limited in height for buildings assigned to Seismic Design Category B, shall be limited in height to ~~160~~ 35 feet (48768 mm) for buildings assigned to Seismic Design Category C, ~~shall be limited to 65 feet (19812 mm) for buildings assigned to Seismic Design Category D,~~ and ~~is~~ are not permitted for buildings assigned to Seismic Design Categories D, E and F.

For ordinary plain (unreinforced) AAC masonry shear walls used in the seismic force-resisting system of structures, the response modification factor, R, shall be permitted to be taken as 1½, the deflection amplification factor, C_d, shall be permitted to be taken as 1½, and the system overstrength factor, Ω_o, shall be permitted to be taken as 2½. ~~The maximum height for o~~ Ordinary plain (unreinforced) AAC masonry shear walls shall not be limited in height for buildings assigned to Seismic Design Category B and ~~is~~ are not permitted for buildings assigned to Seismic Design Categories C, D, E and F.

2101.2.2 Strength design. Masonry designed by the strength design method shall comply with the provisions of Sections 2106 and 2108, except that AAC masonry shall comply with the provisions of Section 2106, Section 1613.6.3, and Chapter 1 and Appendix A of ACI 530/ASCE 5/TMS 402.

Committee Reason: This code change adds seismic design coefficients and limitations for autoclaved aerated masonry shear wall systems, thus extending the use of these systems in seismic applications. The modification provides that these systems will not be used in Seismic Design Category D, E or F buildings.

Assembly Action: **None**

S25-06/07

Committee Action: **Disapproved**

Committee Reason: The proposed code change was deemed unnecessary, since the issue raised has been addressed as an ASCE 7 erratum.

Assembly Action: **None**

S26-06/07

Committee Action: **Approved as Modified**

Replace the proposal with the following:

1613.6.3 Seismic controls for elevators. Seismic switches in accordance with Section 8.4.10 of ASME A17.1 shall be deemed to comply with Section 13.6.10.3 of ASCE 7.

Committee Reason: This proposal clarifies the application of multiple provisions in referenced standards for seismic controls on elevators. The modification adds an IBC provision, recognizing seismic switches in accordance with ASME A17.1 as deemed to comply with the ASCE 7 requirements for seismic controls.

Assembly Action: **None**

S27-06/07

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved at the request of the proponent who indicates he will submit a modified proposal during the public comment phase.

Assembly Action: **None**

S28-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

FABRICATED ITEM. Structural, load-bearing or lateral load-resisting assemblies consisting of materials assembled prior to installation in a building or structure, or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a building or structure. Materials produced in accordance with standard specifications referenced by this code, such as rolled structural steel shapes, steel-reinforcing bars, masonry units, and wood structural panels or in accordance with a standard, listed in Chapter 35, ~~that requires~~ which provides requirements for quality control ~~to be provided~~ done under the supervision of a third party quality control agency shall not be considered "fabricated items."

Committee Reason: The proposal clarifies the definition of fabricated item so that the special inspection requirements can be applied more uniformly. The modification retains the current list of specific items that are excluded from the definition of fabricated items.

Assembly Action: **None**

S29-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change clarifies applicability for the definitions of "mark" and "label" by more appropriately locating them in Chapter 2.

Assembly Action: **None**

S30-06/07

Committee Action: **Disapproved**

Committee Reason: Rather than relocate to Chapter 34, it is felt that the provision for "heretofore approved materials" is appropriate in its current location, since it would apply to work under construction.

Assembly Action: **None**

S31-06/07

Committee Action: **Approved as Submitted**

Committee Reason: Removing the special inspection exemption for Group R-3 is an improvement that is also consistent with action taken in previous code development cycle.

Assembly Action: **None**

S32-06/07

Committee Action: **Approved as Modified**

Modify proposal as follows:

1704.1 General. Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more special inspectors to provide inspections during construction on the types of work listed under Section 1704. These inspections are in addition to the inspections identified in Section 109. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for the inspection of the particular type of construction or operation requiring special inspection. The special inspector shall provide written documentation to the building official demonstrating their competence and relevant experience or training. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this code.

Exceptions:

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Group R-3 as applicable in Section 101.2 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

Committee Reason: This proposal will promote standardized special inspector qualifications. It is felt that poorly trained special inspectors have impacted construction in some areas. The modification adds training as a qualification that would be equivalent to relevant experience.

Assembly Action: **None**

S33-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved because the action taken on S31-06/07 was preferred.

Assembly Action: **None**

S34-06/07 **Withdrawn by Proponent**

S35-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change will clarify the determination of a building's height in stories in the structural chapters by referring to grade plane.

Assembly Action: **None**

S36-06/07

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved at the request of the proponent who intends to submit a revised proposal as a public comment.

Assembly Action: **None**

S37-06/07

Committee Action: **Approved as Modified**

Modify proposal as follows:

1704.7 Soils. Special inspections for existing site soil conditions, fill placement and load-bearing requirements shall be as required by this section and Table 1704.7. The approved soils report, required by Section 1802.2, and the documents prepared by the registered design professional shall be used to determine compliance. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved soils report, as specified in Section 1803.5.

Exception: Special inspection is not required during placement of controlled fill having a total depth of 12 inches (305 mm) or less.

1704.8 Pile foundations. Special inspections shall be performed during installation and testing of pile foundations as required by Table 1704.8. The approved soils report, required by Section 1802.2, and the documents prepared by the registered design professional shall be used to determine compliance.

1704.9 Pier foundations. Special inspections shall be performed during installation and testing of pier foundations as required by Table 1704.9. The approved soils report, required by Section 1802.2, and the documents prepared by the registered design professional shall be used to determine compliance.

1708.4 Structural steel. The testing contained in the quality assurance plan shall be as required by AISC 341 and the additional requirements herein. The acceptance criteria for nondestructive testing shall be as required in AWS D1.1 as specified by the registered design professional.

Base metal thicker than 1.5 inches (38 mm), where subject to through-thickness weld shrinkage strains, shall be ultrasonically tested for discontinuities behind and adjacent to such welds after joint completion. Any material discontinuities shall be accepted or rejected on the basis of ASTM A 435 or ASTM A 898 (Level 1 criteria) and criteria as established by the registered design professional in responsible charge and the construction documents.

1708.5 Seismic qualification of mechanical and electrical equipment. The registered design professional shall state the applicable seismic qualification requirements for designated seismic systems on the construction documents. Each manufacturer of designated seismic system components shall test or analyze the component and its mounting system or anchorage and submit a certificate of compliance for review and acceptance by the registered design professional for the design of the designated seismic system and for approval by the building official. Qualification shall be by actual test on a shake table, by three-dimensional shock tests, by an analytical method using dynamic characteristics and forces, by the use of experience data (i.e., historical data demonstrating acceptable seismic performance) or by more rigorous analysis providing for equivalent safety.

1709.2 Structural observations for seismic resistance. Structural observations shall be provided for those structures included in Seismic Design Category D, E or F, as determined in Section 1613, where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with Section 1604.5.
2. The height of the structure is greater than 75 feet (22 860 mm) above the base.
3. The structure is assigned to Seismic Design Category E, is classified as Occupancy Category I or II in accordance with Section 1604.5 and is greater than two stories in height.
4. When so designated by the registered design professional ~~in~~ responsible ~~charge~~ for the structural design.
5. When such observation is specifically required by the building official.

1709.3 Structural observations for wind requirements. Structural observations shall be provided for those structures sited where the basic wind speed exceeds 110 mph (49 m/sec) determined from Figure 1609, where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with Table 1604.5.
2. The building height of the structure is greater than 75 feet (22 860 mm).
3. When so designated by the registered design professional ~~in~~ responsible ~~charge~~ for the structural design,
4. When such observation is specifically required by the building official.

Committee Reason: The proposal helps to distinguish between the various registered design professionals that are involved in a project by eliminating the phrase "in responsible charge" from Chapter 17. The modification clarifies that it is the registered design professional responsible for the structural design who may require structural observations in structures having higher wind or seismic risks.

Assembly Action: **None**

S38-06/07

Withdrawn by Proponent

S39-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1704.10 Sprayed fire-resistant materials. Special inspections for sprayed fire-resistant materials applied to structural elements and decks shall be in accordance with Sections 1704.10.1 through 1704.10.6 Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests described in this section shall be based on samplings of specific floor, roof and wall assemblies, and structural framing members. Special inspections shall be performed after the rough installation of electrical, sprinkler, mechanical and plumbing systems and suspension for ceiling systems, where applicable.

1704.10.1 Physical and visual tests. The following physical and visual tests are required to demonstrate compliance with the listing and the fire-resistance rating:

1. Condition of substrates.
2. Thickness of application.
3. Density in pounds per cubic foot (kgs per m^3).
4. Bond strength -adhesion/cohesion.
5. Condition of finished application.

1704.10.2 Structural member surface conditions. The surfaces shall be prepared in accordance with the approved fire-resistance design and the approved manufacturer's written instructions. The prepared surface of structural members to be sprayed shall be inspected before the application of the sprayed fire-resistant material.

1704.10.3 Application. The substrate shall have a minimum ambient temperature before and after application as specified in the approved manufacturer's written instructions. The area for application shall be ventilated during and after application as required by the approved manufacturer's written instructions.

1704.10.4 Thickness. ~~The average thickness minus two times the standard deviation of the thickness measurements~~ No more than 10 percent of the thickness measurements of the sprayed fire-resistant materials applied to structural elements shall ~~not~~ be less than the thickness required by the approved fire-resistant design but in no case less than the minimum allowable thickness required by Section 1704.10.4.1. ~~Individual measured thickness, which exceeds the thickness specified in a design by 1/4 inch (6.4 mm) or more, shall be recorded as the thickness specified in the design plus 1/4 inch (6.4 mm).~~

1704.10.4.1 Minimum allowable thickness. For design thicknesses 1 inch (25 mm) or greater, the minimum allowable individual thickness shall be the design thickness minus 1/4 inch (6.4 mm). For design thicknesses less than 1 inch (25 mm), the minimum allowable individual thickness shall be the design thickness minus 25 percent. Thickness shall be determined in accordance with ASTM E 605. Samples of the sprayed fire-resistant materials shall be selected in accordance with Sections ~~1704.10.4.1~~ 1704.10.4.2 and ~~1704.10.4.2~~ 1704.10.4.3.

~~**1704.10.4.1**~~ **1704.10.4.2 Floor, roof and wall assemblies**. The thickness of the sprayed fire-resistant material applied to floor, roof and wall assemblies shall be determined in accordance with ASTM E 605, taking ~~the average minus two times the standard deviation of the thickness measurements of~~ not less than four measurements for each 1,000 square feet ($93m^2$) of the sprayed area on each floor or part thereof.

~~**1704.10.4.1.1**~~ **1704.10.4.2.1 Flat decks.** Thickness measurements shall be taken from a 12 inches (305 mm) square with a minimum of four measurements, symmetrically.

~~1704.10.4.1.2~~ 1704.10.4.2.2 **Fluted decks**. Thickness measurements shall be taken from a 12 inches (305 mm) square with four random, symmetrical measurements within the square, including one each of the following: valley, crest and sides and report as an average.

~~1704.10.4.2~~ 1704.10.4.3 **Structural framing members.** The thickness of the sprayed fire-resistant material applied to structural members shall be determined in accordance with ASTM E 605. Thickness testing shall be performed on not less than 25 percent of the structural members on each floor.

~~1704.10.4.2.1~~ 1704.10.4.3.1 **Beams.** Thickness measurements shall be made at nine locations around the beam at each end of a 12 inches (305 mm) length.

~~1704.10.4.2.2~~ 1704.10.4.3.2 **Joists and trusses**. Thickness measurements shall be made at seven locations around the joist or truss at each end of a 12 inches (305 mm) length.

~~1704.10.4.2.3~~ 1704.10.4.3.3 **W-shape columns.** Thickness measurements shall be made at 12 locations around the column at each end of a 12 inches (305 mm) length.

~~1704.10.4.2.4~~ 1704.10.4.3.4 **Tube and pipe columns**. Thickness measurements shall be made at a minimum of four locations around the column at each end of a 12 inches (305 mm) length.

1704.10.5 Density. The density of the sprayed fire-resistant material shall not be less than the density specified in the approved fire-resistant design. Density of the sprayed fire-resistant material shall be determined in accordance with ASTM E 605. The test samples for determining the density of the sprayed fire-resistant materials shall be selected as follows:

1. From each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m^2) or part thereof of the sprayed area in each story.
2. From beams, girders, joists, trusses and columns at the rate of not less than one sample for each type of structural framing member for each 2,500 square feet (232 m^2) of floor area or part thereof in each story.

1704.10.6 Bond strength. The cohesive/adhesive bond strength of the cured sprayed fire-resistant material applied to structural elements shall not be less than 150 pounds per square foot (psf) (7.18 kN/m^2). The cohesive/adhesive bond strength shall be determined in accordance with the field test specified in ASTM E 736 by testing in-place samples of the sprayed fire-resistant material selected in accordance with Sections 1704.10.6.1 through 1704.10.6.3.

1704.10.6.1 Floor, roof and wall assemblies. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m^2) or part thereof of the sprayed area in each story.

1704.10.6.2 Structural framing members. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from beams, girders, joists, trusses and columns at the rate of not less than one sample for each type of structural framing member for each 2,500 square feet (232 m^2) of floor area or part thereof in each story.

1704.10.6.3 Primer, paint and encapsulant bond tests. Bond tests to qualify a primer, paint or encapsulant shall be conducted only when the fire-resistive coating is applied to a primed, painted or encapsulated surface for which acceptable bond-strength performance between these coatings and the fire resistive material has not been measured. A bonding agent approved by the SFRM manufacturer shall to be applied to a primed, painted or encapsulated surface where the bond strengths are found to be below minimum required values.

Committee Reason: This proposal provides the details to allow for verification that the sprayed fire-resistant material is properly installed. Given the actions the committee has previously taken to assure that the materials are appropriately applied (FS100-06/07) and that the conditions during the application are appropriate (G68-06/07), the inspection is important to verify installation and to help assure proper performance. The modifications deleted the requirements that the acceptance of the inspection measurements be based upon the "standard deviation." Since this is intended as a means of field inspection, the connection to "standard deviation" was deleted and replaced by the 10 percent limitation. The intent of both the original and this revised text is to provide a 95 percent confidence level that the installed material exceeds the requirements. The committee did note that Section 1704.10.6 of the proposal does refer to the bond strength of 150 pounds. Based on the action taken with code change G68-06/07 a public comment which directs code users to the new Table 403.15 is needed for the high-rise buildings which require a greater bond strength.

Assembly Action: **None**

S40-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did comply with ICC criteria for referenced standards.

Committee Action: **Disapproved**

Committee Reason: The proposal would increase the cost of construction due to the need for special inspection on the penetration and joint systems. The committee was also concerned with the new process of requiring inspection of all fire-resistive penetrations and joints and was concerned that this would then get extended to all assemblies and elements within Chapter 7. Although previous committees apparently had indicated that these types of provisions should go in Chapter 17 with the special inspection items, the current committee stated that specifying the test method does belong in Chapter 7 and that they do not believe that special inspection is needed or should be required.

Assembly Action: **None**

S41-06/07

Committee Action: **Disapproved**

Committee Reason: It was felt that the special inspections required for seismic resistance are sufficiently clear when considered with the clarifications provided under statement of special inspections. What contradictions may exist were not addressed by the proposed change.

Assembly Action: **None**

S42-06/07

Committee Action: **Disapproved**

Committee Reason: The prosed change was disapproved at the request of the proponent who intends to submit a modified proposal.

Assembly Action: **None**

S43-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved because the action taken on code changes S44-06/07 and S45-06/07 was preferred.

Assembly Action: **None**

S44-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change is consistent with the current wind requirements in the statement of special inspection. It closes the loop and meets the intent of Section 1705.4.2.

Assembly Action: **None**

S45-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal completes the wind resistance special inspections and is consistent with the approval of S44-06/07.

Assembly Action: **None**

S46-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1708.2 Testing and qualification for seismic resistance. The ~~tests~~ testing and qualification specified in sections 1708.3 through 1708.6 are required ~~for the following~~ as follows:

1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F, as determined in Section 1613 shall meet the requirements of Sections 1708.3 and 1708.4, as applicable.
2. Designated seismic systems in structures assigned to Seismic Design Category D, E or F in Section 13.2.2 of ASCE 7 shall meet the requirements of Section 1708.5.
3. Architectural, mechanical and electrical components in structures assigned to Seismic Design Category C, D, E or F with an I_p = 1.0 shall be permitted to be seismically qualified by meeting the requirements of ~~that are required in~~ Section 1708.5.
4. The seismic isolation system in seismically isolated structures shall meet the testing requirements of Section 1708.6.

Committee Reason: This code change makes corrections to the organization of Section 1708.2 which lists items that require testing for seismic resistance. The modification provides consistency with the following sections that are referenced by Section 1708.2.

Assembly Action: **None**

S47-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change will improve construction quality by requiring identification of the frequency and extent of structural observations.

Assembly Action: **None**

S48-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did comply with ICC criteria for referenced standards.

Committee Action: **Approved as Submitted**

Committee Reason: The proposal appropriately adds an additional test standard that is specific to garage doors.

Assembly Action: **None**

S49-06/07

Committee Action: **Disapproved**

Committee Reason: The proposal to add "and connectors" to the title of Section 1715.1.1 raises concerns that connectors such as truss plates are not included in the scope of this section. Thus it is more appropriate to maintain the current wording.

Assembly Action: **None**

S50-06/07

Committee Action: **Disapproved**

Committee Reason: There are concerns with enforceability of the proposed requirements. Subjective language such as " poor or unsatisfactory drainage" should be made clearer.

Assembly Action: **None**

S51-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change makes the exception to interconnecting pier foundations in Group R-3 occupancies more understandable.

Assembly Action: **None**

S52-06/07

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies where grade beams need to comply with the referenced provision in ACI 318.

Assembly Action: **None**

S53-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal provides guidance to engineers on the additional pile analysis requirements for structures that are classified as Seismic Design Category D, E or F.

Assembly Action: **None**

S54-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1810.8 Micropiles. Micropiles shall comply with the requirements of Sections 1810.8.1 through 1810.8.5.

1810.8.1 Construction. Micropiles shall consist of a grouted section reinforced with steel pipe or steel reinforcement. Micropiles shall develop their load-carrying capacity through a bond zone in soil, bedrock or a combination of soil and bedrock. The steel pipe or steel reinforcement shall extend the full length of the micropile.

1810.8.2 Materials. Grout shall have a specified compressive strength (f'_c) of not less than 4,000 psi (27.58 Mpa). The grout mix shall be designed and proportioned so as to produce a pumpable mixture. Reinforcement shall consist of deformed reinforcing bars in accordance with ASTM A 615 Grade 60 or Grade 75 or ASTM A 722 Grade 150.

The steel pipe shall have a minimum wall thickness of 3/16 inch (4.8 mm). Splices shall comply with Section 1808.2.7. The steel pipe shall ~~be in accordance with ASTM A 252 Grade 3, except the~~ have a minimum yield strength ~~shall be as used in the design submittal~~ exceeding 45,000 p.s.i. (310 MPa) and a minimum elongation ~~shall be~~ of 15 percent as shown by mill certifications or two coupon test samples per 40 000 pounds (kg) of pipe.

1810.8.3 Allowable stresses. The allowable compressive stress in the grout shall not exceed 0.33 f'_c. The allowable compressive stress in the steel pipe and steel reinforcement shall not exceed the lesser of 0.4 F_y, and 32,000 psi (220 Mpa). The allowable tensile stress in the steel reinforcement shall not exceed 0.60 F_y. The allowable tensile stress in the cement grout shall be zero.

1810.8.4 Reinforcement. For piles or portions of piles grouted inside a temporary or permanent casing or inside a hole drilled into bedrock or a hole drilled with grout, the steel pipe or steel reinforcement shall be designed to carry at least 40 percent of the design compression load. Piles or portions of piles grouted in an open hole in soil without temporary or permanent casing and without suitable means of verifying the hole diameter during grouting shall be designed to carry the entire compression load in the reinforcing steel. Where a steel pipe is used for reinforcement, the portion of the grout enclosed within the pipe is permitted to be included in the determination of the allowable stress in the grout.

1810.8.4.1 Seismic reinforcement. Where a structure is assigned to Seismic Design Category C, a permanent steel casing shall be provided from the top of the pile down a minimum of 120 percent of the flexural length. Where a structure is assigned to Seismic Design D, E or F, the pile shall be considered as an alternative system in accordance with Section 104.11. The alternative pile system design, supporting documentation and test data shall be submitted to the building official for review and approval.

1810.8.5 Installation. The pile shall be permitted to be formed in a hole advanced by rotary or percussive drilling methods, with or without casing. The pile shall be grouted with a fluid cement grout. The grout shall be pumped through a tremie pipe extending to the bottom of the pile until grout of suitable quality returns at the top of the pile. The following requirements apply to specific installation methods:

1. For piles grouted inside a temporary casing, the reinforcing bars shall be inserted prior to withdrawal of the casing. The casing shall be withdrawn in a controlled manner with the grout level maintained at the top of the pile to ensure that the grout completely fills the drill hole. During withdrawal of the casing, the grout level inside the casing shall be monitored to check that the flow of grout inside the casing is not obstructed.
2. For a pile or portion of a pile grouted in an open drill hole in soil without temporary casing, the minimum design diameter of the drill hole shall be verified by a suitable device during grouting.
3. For piles designed for end bearing, a suitable means shall be employed to verify that the bearing surface is properly cleaned prior to grouting.
4. Subsequent piles shall not be drilled near piles that have been grouted until the grout has had sufficient time to harden.
5. Piles shall be grouted as soon as possible after drilling is completed.
6. For piles designed with a full length casing, the casing shall be pulled back to the top of the bond zone and reinserted or some by other suitable means employed to assure grout coverage outside the casing.

Committee Reason: The proposal makes editorial improvements so that the provisions for micropiles are clearer. The modification further clarifies the minimum material requirements for steel pipe.

Assembly Action: **None**

S55-06/07

Committee Action: **Disapproved**

Committee Reason: It was felt that the proposal to modify ACI 318, is not needed at this time due to the fact that the ACI 318 committee has taken up this issue. If their action is not completed, ample time remains in the next code development cycle to resubmit this proposal.

Assembly Action: **None**

S56-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change adds exceptions to correct a duplication in the penalty on non-ductile anchors supporting non-structural components.

Assembly Action: **None**

S57-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal makes editorial changes to provisions that require information to be included in construction documents. The revised wording is more concise.

Assembly Action: **None**

S58-06/07

Committee Action: **Approved as Submitted**

Committee Reason: The removal of masonry requirements for hot weather and cold weather construction that are transcribed from the MSJC code will prevent conflicts.

Assembly Action: **None**

S59-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved at the recommendation of the proponent based on the committee's action on S60-06/07.

Assembly Action: **None**

S60-06/07

Errata: Add item 8 to read as follows:

8. Delete Section 2110.1 Scope through Section 2110.7 Reinforcement without substitution.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

2101.2.4 Empirical design. Masonry designed by the empirical design method shall comply with the provisions of Chapter 5 of ACI 530/ASCE 5/TMS 402. In buildings that exceed one or more of the limitations in Section 5.1.2 of ACI 530/ASCE 5/TMS 402, masonry shall be designed in accordance with the engineered design provisions of Section 2101.2.1, 2101.2.2, 2101.2.3 or the foundation wall provisions of Section 1805.5.

2101.2.5 Glass masonry. Glass masonry shall comply with the provisions of Chapter 7 of ACI 530/ASCE 5/TMS 402 and this section.

2101.2.5.1 Limitations. Solid or hollow approved glass block shall not be used in fire walls, party walls, fire barriers, ~~or~~ fire partitions or smoke barriers, or for load-bearing construction. Such blocks shall be erected with mortar and reinforcement in metal channel-type frames, structural frames, masonry or concrete recesses, embedded panel anchors as provided for both exterior and interior walls or other approved joint materials. Wood strip framing shall not be used in walls required to have a fire-resistance rating by other provisions of this code.

Exceptions:

1. Glass-block assemblies having a fire protection rating of not less than 3/4 hour shall be permitted as opening protectives in accordance with Section 715 in fire barriers, ~~and~~ fire partitions and smoke barriers that have a required fire-resistance rating of 1 hour or less and do not enclose exit stairways, exit ramps or exit passageways.
2. Glass-block assemblies as permitted in Section 404.5, Exception 2.

2101.2.7 Surface-bonded masonry. Dry-stacked, surface-bonded masonry shall comply with the provisions of Section 2109.

2101.2.8 Adobe masonry. Adobe masonry shall comply with the provisions of Section 2110.

SECTION 2109
SURFACE-BONDED MASONRY

2109.1 General. Dry-stacked, surface-bonded masonry shall conform to Chapter 5 of ACI 530/ASCE 5/TMS 402 except as modified in this section.

2109.1.1 Limitations. The use of dry-stacked, surface-bonded masonry shall be limited in accordance with Section 5.1.2 of ACI 530/ASCE 5/TMS 402. The use of dry-stacked, surface-bonded masonry shall be prohibited in structures assigned to Occupancy Category IV.

In buildings that exceed one or more of the limitations in Section 5.1.2 of ACI 530/ASCE 5/TMS 402, masonry shall be designed in accordance with the engineered design provisions of Section 2101.2.1, 2101.2.2, 2101.2.3 or the foundation wall provisions of Section 1805.5.

2109.2 Strength. Dry-stacked, surface-bonded concrete masonry walls shall be of adequate strength and proportions to support all superimposed loads without exceeding the allowable stresses listed in Table 2109.2. Allowable stresses not specified in Table 2109.2 shall comply with the requirements of Chapter 5 of ACI 530/ASCE 5/TMS 402.

TABLE 2109.2
ALLOWABLE STRESS GROSS CROSS-SECTIONAL AREA FOR DRY-STACKED, SURFACE-BONDED CONCRETE MASONRY WALLS

(No change to table contents)

2109.3 Construction. Construction of dry-stacked, surface-bonded masonry walls, including stacking and leveling of units, mixing and application of mortar and curing and protection shall comply with ASTM C 946.

SECTION 2110
ADOBE MASONRY

2110.1 Adobe construction. Adobe construction shall comply with this section and shall be subject to the requirements of this code for Type V construction and Chapter 5 of ACI 530/ASCE 5/TMS 402.

2110.1.1 Limitations. The use of adobe masonry shall be limited as noted in Section 5.1.2 of ACI 530/ASCE 5/TMS 402. The use of adobe masonry shall be prohibited in structures assigned to Occupancy Category IV. In buildings that exceed one or more of the limitations in Section 5.1.2 of ACI 530/ASCE 5/TMS 402, masonry shall be designed in accordance with the engineered design provisions of Section 2101.2.1, 2101.2.2, 2101.2.3 or the foundation wall provisions of Section 1805.5.

2110.2 Unstablized adobe.

(Renumber Sections 2109.8.1.1 through 2109.8.4.7)

1704.5 Masonry construction. Masonry construction shall be inspected and evaluated in accordance with the requirements of Sections 1704.5.1 through 1704.5.3, depending on the classification of the building or structure or nature of the occupancy, as defined by this code.

Exception: Special inspections shall not be required for:

1. Empirically designed masonry, glass unit masonry, masonry veneer, surface-bonded masonry or adobe masonry designed by Section 2101.2.4, 2101.2.5, 2101.2.6, 2101.2.7, or 2101.2.8 respectively, when they are part of structures classified as Occupancy Category I, II or III in accordance with Section 1604.5.
2. Masonry foundation walls constructed in accordance with Table 1805.5(1), 1805.5(2), 1805.5(3) or 1805.5(4).
3. Masonry fireplaces, masonry heaters or masonry chimneys installed or constructed in accordance with Section 2111, 2112 or 2113, respectively.

1704.5.1 Empirically designed masonry, glass unit masonry and masonry veneer, in Occupancy Category IV. The minimum special inspection program for empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2101.2.4, 2101.2.5, or 2101.2.6, respectively in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1704.5.1.

1704.5.2 Engineered masonry in Occupancy Category I, II or III. The minimum special inspection program for masonry designed by Section 2101.2.1, 2101.2.2 or 2101.2.3 in structures classified as Occupancy Category I, II or III, in accordance with Section 1604.5, shall comply with Table 1704.5.1.

1704.5.3 Engineered masonry in Occupancy Category IV. The minimum special inspection program for masonry designed by Section 2101.2.1, 2101.2.2 or 2101.2.3 in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1704.5.3.

1708.1.1 Empirically designed masonry, glass unit masonry, surface-bonded masonry and adobe masonry in Occupancy Category I, II, or III. For masonry designed by Section 2101.2.4, 2101.2.5, 2101.2.7, or 2101.2.8 in structures classified as Occupancy Category I, II or III, in accordance with Section 1604.5, certificates of compliance used in masonry construction shall be verified prior to construction.

1708.1.2 Empirically designed masonry and glass unit masonry in Occupancy Category IV. The minimum testing and verification prior to construction for masonry special inspection program for masonry designed by Section 2101.2.4 or 2101.2.5 in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1708.1.2

1708.1.3 Engineered masonry in Occupancy Category I, II or III. The minimum testing and verification prior to construction for masonry designed by Section 2101.2.1, 2101.2.2 or 2101.2.3 in structures classified as Occupancy Category I, II or III, in accordance with Section 1604.5, shall comply with Table 1708.1.2

1708.1.4 Engineered masonry in Occupancy Category IV. The minimum testing and verification prior to construction for masonry designed by Section 2101.2.1, 2101.2.2 or 2101.2.3 in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1708.1.4

404.5 Enclosure of atriums. Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both.

Exceptions:

1. A glass wall forming a smoke partition where automatic sprinklers are spaced 6 feet (1829 mm) or less along both sides of the separation wall, or on the room side only if there is not a walkway on the atrium side, and between 4 inches and 12 inches (102mm and 305 mm) away from the glass and designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction. The glass shall be installed in a gasketed frame so that the framing system deflects without breaking (loading) the glass before the sprinkler system operates.
2. A glass-block wall assembly in accordance with Section 2101.2.5 and having a 3/4-hour fire protection rating.
3. The adjacent spaces of any three floors of the atrium shall not be required to be separated from the atrium where such spaces are included in the design of the smoke control system.

Committee Reason: Removal of transcribed MSJC code provisions is consistent with actions taken on other proposals. Prohibiting adobe and surface-bonded masonry in Occupancy Category IV buildings will also prevent future problems. The modification adds appropriate fire-resistance rated elements to the limitations placed on glass unit masonry.

Assembly Action: **None**

S61-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved at the recommendation of the proponent based on the committee's action on S60-06/07.

Assembly Action: **None**

S62-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: This code change would radically change the current requirements for identifying steel. It is not necessary with proper quality control systems in place.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: There was insufficient technical justification shown to support this change. The language, as currently written, would conflict with the AISI standard requirement for marking steel.

Assembly Action: **None**

S63-06/07

Committee Action: **Disapproved**

Committee Reason: The current code text is more consistent with engineering practice and licensing laws, because in a lot of cases the joist placement plans include information that is not under the control of the joist manufacturer. Also many engineering licensing laws exempt manufacturers installation plans.

Assembly Action: **None**

S64-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change identifies termite resistant properties in order to clarify the definition of naturally durable wood.

Assembly Action: **None**

S65-06/07

Committee Action: **Approved as Modified**

Modify proposal as follows:

SECTION 2302
DEFINITIONS

TREATED WOOD. Wood and wood based materials that use vacuum-pressure impregnation processes to enhance fire retardant or preservative properties.

Fire-retardant-treated wood. Pressure-treated lumber and plywood that exhibit reduced surface burning characteristics and resist ~~(prevent)~~ propagation of fire.

Preservative-treated wood. Pressure-treated wood products that exhibit reduced susceptibility to damage by fungi, ~~termites~~ insects, or marine borers.

Committee Reason: The proposal provides appropriate editorial clarifications in the definitions relating to treated wood. The modification retains insects rather than referring exclusively to termites under preservative-treated wood.

Assembly Action: **None**

S66-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

2303.4 Trusses.

2303.4.1 Design. Wood trusses shall be designed in accordance with the provisions of this code and accepted engineering practice. Members are permitted to be joined by nails, glue, bolts, timber connectors, metal connector plates or other approved framing devices.

2303.4.1.1 Truss design drawings. The written, graphic and pictorial depiction of each individual truss shall be provided to the building official for approval prior to installation. Truss design drawings shall also be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include, at a minimum, the information specified below:

1. Slope or depth, span and spacing;
2. Location of all joints;
3. Required bearing widths;
4. Design loads as applicable;
   4.1. Top chord live load (including snow loads);
   4.2. Top chord dead load;
   4.3. Bottom chord live load;
   4.4. Bottom chord dead load;
   4.5. Concentrated loads and their points of application as applicable;
   4.6. Controlling wind and earthquake loads as applicable;
5. Adjustments to wood member and metal connector plate design value for conditions of use;
6. Each reaction force and direction;
7. Metal connector plate type, size, and thickness or gage, and the dimensioned location of each metal connector plate except where symmetrically located relative to the joint interface;
8. Size, species and grade for each wood member;
9. Specific connection capacities or ~~C~~ connection capacities required for:
   9.1. Truss to truss girder;
   9.2. Truss ply to ply; and
   9.3. Field ~~splices~~ assembly of a truss when the truss shown on the individual Truss Design Drawing is supplied in separate pieces that will be field connected.
10. Calculated deflection ratio and maximum vertical and horizontal deflection for live and total load as applicable;
11. Maximum axial tension and compression forces in the truss members; and
12. Required permanent individual truss member ~~bracing~~ restraint and method per Section 2303.4.1.2, unless a specific truss member permanent bracing plan for the roof or floor structural system is provided by a registered design professional.

2303.4.1.2 Permanent individual ~~T~~ truss member restraint ~~permanent bracing~~. Where permanent ~~bracing~~ restraint of truss members is required on the truss design drawings, it shall be accomplished by one of the following methods:

1. The trusses shall be designed so that the buckling of any individual truss member is resisted internally by the individual truss through suitable means (i.e., buckling reinforcement by T-reinforcement ~~bracing~~ or L-reinforcement ~~bracing~~). The buckling reinforcement of individual members of the trusses shall be installed as shown on the truss design drawing or on supplemental truss member buckling reinforcement details provided by the truss designer.
2. Permanent individual truss member restraint and diagonal bracing shall be installed using standard industry lateral restraint and diagonal bracing details in accordance with generally accepted engineering practice. Locations for lateral ~~bracing~~ restraint shall be identified on the truss design drawing.

2303.4.1.3 Truss designer. The individual or organization responsible for the design of trusses.

2303.4.1.3.1 Truss design drawings. Where required by the registered design professional, the building official, or the statutes of the jurisdiction in which the project is to be constructed, each individual truss design drawing shall bear the seal and signature of the truss designer:

Exceptions:

1. Where a cover sheet and truss index sheet are combined into a single sheet and attached to the set of truss design drawings the single cover/truss index sheet is the only document required to be signed and sealed by the truss designer.
2. When a cover sheet and a truss index sheet are separately provided and attached to the set of truss design drawings the cover sheet and the truss index sheet are the only documents required to be signed and sealed by the truss designer.

2303.4.2 Truss placement diagram. The truss manufacturer shall provide a truss placement diagram that identifies the proposed location for each individually designated truss and references the corresponding truss design drawing. The truss placement diagram shall be provided as part of the truss submittal package, and with the shipment of trusses delivered to the job site. Truss placement diagrams shall not be required to bear the seal or signature of the truss designer.

Exception: When the truss placement diagram is prepared under the direct supervision of a registered design professional, it is required to be signed and sealed.

2303.4.3 Truss submittal package. The truss submittal package shall consist of each individual truss design drawing, the truss placement diagram, the truss member permanent bracing details and, as applicable, the cover/truss index sheet.

2303.4.4 Anchorage. Transfer of loads and anchorage of each truss to the supporting structure is the responsibility of the registered design professional.

2303.4.5 Alterations to trusses. Truss members and components shall not be cut, notched, drilled, spliced or otherwise altered in any way without written concurrence and approval of a registered design professional. Alterations resulting in the addition of loads to any member (e.g., HVAC equipment, water heater) shall not be permitted without verification that the truss is capable of supporting such additional loading.

2303.4.6 Metal-plate-connected trusses. In addition to Sections 2303.4.1 through 2303.4.5, the design, manufacture and quality assurance of metal-plate-connected wood trusses shall be in accordance with TPI 1. Manufactured trusses shall comply with Section 1704.6 as applicable.

Committee Reason: The proposal provides better organization for wood truss design requirements. The truss placement plan should be part of the design drawings and should be reviewed by the engineer of record. The modification to Section 2304.1.1 clarifies the requirements applicable to truss connections. The modification to Section 2303.4.1.2 coordinates the code text with that of the ANSI/TPI 1 standard.

Assembly Action: **None**

S67-06/07

Note: Revise original analysis as published in the monograph as follows:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did not comply with ICC criteria for referenced standards, Section 3.6.2.1 mandatory language, Section 3.6.3 consensus process.

Committee Action: **Disapproved**

Committee Reason: The proposed standard for truss bracing is not a consensus standard. It would not be effective because it is a nonmandatory guideline.

Assembly Action: **None**

S68-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

2303.4.2 Metal-plate-connected trusses. In addition to Sections 2303.4.1 through 2303.4.1.7, the design, manufacture and quality assurance of metal-plate-connected wood trusses shall be in accordance with TPI 1. ~~Manufactured trusses shall comply~~ Jobsite inspections shall be in compliance with Section~~s 106 and~~ 109.4 as applicable.

Committee Reason: This code change clarifies the inspections of metal-plate-connected trusses. The modification provides a specific reference to the job site inspections that are typically required for these trusses.

Assembly Action: **None**

S69-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal appropriately deletes reference to an obsolete material.

Assembly Action: **None**

S70-06/07

PART I — IBC
Committee Action: **Approved as Modified**

Modify proposal as follows:

2304.6.1 Wood structural panel sheathing. Where wood structural panel sheathing is used as the exposed finish on the exterior of outside walls, it shall have an exterior exposure durability classification. Where wood structural panel sheathing is used on the exterior of outside walls but not as the exposed finish, it shall be of a type manufactured with exterior glue (Exposure 1 or Exterior). Where wood structural panel sheathing is used elsewhere, it shall be of a type manufactured with intermediate or exterior glue. Wood structural panel wall sheathing or siding used as structural sheathing shall be capable of resisting wind pressures in accordance with Section 1609. Maximum wind speeds for wood structural panel sheathing used to resist wind pressures shall be in accordance with Table 2304.6.1 for enclosed buildings with a mean roof height not greater than 30 feet (9144 mm) importance factor (I) of 1.0 and topographic factor (K_{zt}) of 1.0.

TABLE 2304.6.1
MAXIMUM BASIC WIND SPEED (mph – 3 SECOND GUST) PERMITTED FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES[a,b,c]

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (INCHES)	MAXIMUM WALL STUD SPACING (INCHES)	PANEL NAIL SPACING		MAXIMUM WIND SPEED (MPH)		
SIZE	PENETRATION (INCHES)				EDGES (INCHES O.C.)	FIELD (INCHES O.C.)	WIND EXPOSURE CATEGORY		
							B	C	D
6d Common (0.113" x 2.0")	1.5	24/0	3/8	16	6	12	110	90	85
		24/16	7/16	16	6	12	110	100	90
						6	150	125	110
8d Common (0.131" x 2.5")	1.75	24/16	7/16	16	6	12	130	110	105
						6	150	125	110
				24	6	12	110	90	85
						6	110	90	85

a. Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
b. Table is based on wind pressures acting toward and away from building surfaces in accordance with Section 6.4.2.2 of ASCE 7. Lateral requirements shall be in accordance with Section 2305 or Section 2308.
c. Wood Structural Panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood Siding rated 16 oc or 24 oc shall be permitted as an alternate to panels with a 24/16 span rating. Wall-16 and Plywood Siding 16 oc shall be used with studs spaced a maximum of 16 inches on center.

Committee Reason: This code change adds requirements for wood structural panel wall sheathing that addresses concerns associated with high wind speeds. The modification places limitations on the tabulated values that are consistent with the assumptions used to calculate them.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: This code change is confusing as to when it is referencing sheathing or siding. Siding is wall covering and is not appropriate to be referenced in this section. This has the appearance of proprietary.

Assembly Action: **None**

S71-06/07

Committee Action: **Disapproved**

Committee Reason: The proposal should include information that the engineer needs, such as the load factor used to derive the allowable live loads.

Assembly Action: **None**

S72-06/07

PART I — IBC
Committee Action: **Approved as Submitted**

Committee Reason: This code change appropriately removes obsolete wood structural panel sizes from Chapter 23.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Submitted**

Committee Reason: This change deletes the 5/16" thick wood structural panel that is no longer widely available. The 3/8" thick wood structural panel is the proper thickness to be used for the bracing requirements.

Assembly Action: **None**

S73-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

2304.8 Lumber decking.

2304.8.1 General. Lumber decking shall be designed and installed in accordance with the general provisions of this code and Section 2304.8. Each piece shall be square end-trimmed. When random lengths are furnished, each piece shall be square end trimmed across the face so that at least 90 percent of the pieces are within 0.5 degrees (0.00873 rad) of square. The ends of the pieces shall be permitted to be beveled up to 2 degrees (0.0349 rad) from the vertical with the exposed face of the piece slightly longer than the opposite face of the piece. Tongue-and-groove decking shall be installed with the tongues up on sloped or pitched roofs with pattern faces down.

2304.8.2 Layup patterns. Lumber decking is permitted to be laid up following one of five standard patterns as defined in Sections 2304.8.2.1 through 2304.8.2.5. Other patterns are permitted to be used provided they are substantiated through engineering analysis.

2304.8.2.1 Simple span pattern. All pieces shall be supported on their ends (i.e., by two supports).

2304.8.2.2 Two-span continuous pattern. All pieces shall be supported by three supports, and all end joints shall occur in line on alternating supports. Supporting members shall be designed to accommodate the load redistribution caused by this pattern.

2304.8.2.3 Combination simple and two-span continuous pattern. Courses in end spans shall be alternating simple span pattern and two-span continuous pattern. End joints shall be staggered in adjacent courses and shall bear on supports.

2304.8.2.4 Cantilevered pieces intermixed pattern. The decking shall extend across a minimum of three spans. Pieces in each starter course and every third course shall be simple span pattern. Pieces in other courses shall be cantilevered over the supports with end joints at alternating quarter or third points of the spans. Each piece shall bear on at least one support.

2304.8.2.5 Controlled random pattern. The decking shall extend across a minimum of three spans. End joints of pieces within six inches (152 mm) of the end joints of the adjacent pieces in either direction shall be separated by at least two intervening courses. In the end bays, each piece shall bear on at least one support. Where an end joint occurs in an end bay, the next piece in the same course shall continue over the first inner support for at least 24 inches (610 mm). The details of the controlled random pattern shall be as specified for each decking material in Section 2304.8.3.3, 2308.4.3 or 2304.8.5.3.

Decking that cantilevers beyond a support for a horizontal distance greater than 18 inches (457 mm), 24 inches (610 mm) or 36 inches (914 mm) for two-inch (51 mm), three-inch (76 mm), and four-inch (102 mm) nominal thickness decking, respectively, shall comply with the following:

1. The maximum cantilevered length shall be 30 percent of the length of the first adjacent interior span.
2. ~~For cantilever overhangs within these limits,~~ A structural fascia shall be fastened to each decking piece to maintain a continuous, straight line.
3. There shall be no end joints in the decking between the cantilevered end of the decking and the centerline of the first adjacent interior span.

2304.8.3 Mechanically laminated decking.

2304.8.3.1 General. Mechanically laminated decking consists of square edged dimension lumber laminations set on edge and nailed to adjacent pieces and to the supports.

2304.8.3.2 Nailing. The length of nails connecting laminations shall not be less than two and one-half times the net thickness of each lamination. Where decking supports are 48 inches (1219 mm) on center (o.c.) or less, side nails shall be installed not more than 30 inches (762 mm) o.c. alternating between top and bottom edges, and staggered one third of the spacing in adjacent laminations. Where supports are spaced more than 48 inches (1219 mm) o.c., side nails shall be installed not more than 18 inches (457 mm) o.c. alternating between top and bottom edges and staggered one-third of the spacing in adjacent laminations. Two side nails shall be installed at each end of butt-jointed pieces.

Laminations shall be toenailed to supports with 20d or larger common nails. Where the supports are 48 inches (1219 mm) o.c. or less, alternate laminations shall be toenailed to alternate supports; where supports are spaced more than 48 inches (1219 mm) o.c., alternate laminations shall be toenailed to every support.

2304.8.3.3 Controlled random pattern. There shall be a minimum distance of 24 inches (610 mm) between end joints in adjacent courses. The pieces in the first and second courses shall bear on at least two supports with end joints in these two courses occurring on alternate supports. A maximum of seven intervening courses shall be permitted before this pattern is repeated.

2304.8.4 Two-inch sawn tongue-and-groove decking.

2304.8.4.1 General. Two-inch (51 mm) decking shall have a maximum moisture content of 15 percent. Decking shall be machined with a single tongue-and-groove pattern. Each decking piece shall be nailed to each support.

2304.8.4.2 Nailing. Each piece of decking shall be toenailed at each support with one 16d common nail through the tongue and face-nailed with one 16d common nail.

2304.8.4.3 Controlled random pattern. There shall be a minimum distance of 24 inches (610 mm) between end joints in adjacent courses. The pieces in the first and second courses shall bear on at least two supports with end joints in these two courses occurring on alternate supports. A maximum of seven intervening courses shall be permitted before this pattern is repeated.

2304.8.5 Three- and four-inch sawn tongue-and-groove decking.

2304.8.5.1 General. Three-inch (76 mm) and four-inch (102 mm) decking shall have a maximum moisture content of 19 percent. Decking shall be machined with a double tongue-and-groove pattern. Decking pieces shall be interconnected and nailed to the supports.

2304.8.5.2 Nailing. Each piece shall be toenailed at each support with one 40d common nail and face-nailed with one 60d common nail. Courses shall be spiked to each other with 8 inch (203 mm) spikes at maximum intervals of 30 inches (762 mm) through predrilled edge holes penetrating to a depth of approximately 4 inches (102 mm). One spike shall be installed at a distance not exceeding 10 inches (254 mm) from the end of each piece.

2304.8.5.3 Controlled random pattern. There shall be a minimum distance of 48 inches (1219 mm) between end joints in adjacent courses. Pieces not bearing on a support are permitted to be located in interior bays provided the adjacent pieces in the same course continue over the support for at least 24 inches (610 mm). This condition shall not occur more than once in every six courses in each interior bay.

Committee Reason: This code change fixes the language of the lumber decking provisions that were incorporated into the IBC during the previous code development cycle. The modification makes an additional editorial correction.

Assembly Action: **None**

S74-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal provides a useful clarification on the location of nails to be provided for ledger strips.

Assembly Action: **None**

S75-06/07

PART I — IBC
Committee Action: **Approved as Submitted**

Committee Reason: This code change revises requirements for the attachment of fiberboard sheathing using staples that makes the code more consistent with current industry practice.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Submitted**

Committee Reason: This change updates the code to the current best practice for fastening structural fiberboard sheathing.

Assembly Action: **None**

S76-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: This code change was disapproved because the proposed splitting of fire-retardant-treated wood requirements into interior and exterior was not substantiated.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

R319.3 Fasteners in preservative-treated and fire-retardant-treated wood. Fasteners in contact with preservative-treated wood and fire-retardant-treated wood shall be in accordance with this section. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A 153.

(Portions of proposal not shown remain unchanged)

Committee Reason: This new language provides clarity to the code user on fasteners and their application when utilizing fire-retardant-treated wood. The modification provides a needed reference to ASTM A 153 which was deleted in the original code change.

Assembly Action: **None**

S77-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: Removal of the exception is not justified since there does not appear to be any consensus on whether mechanically galvanized fasteners are a problem in preservative-treated wood.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: Further industry coordination in needed. The code change was disapproved at the proponent's request.

Assembly Action: **None**

S78-06/07

Committee Action: **Disapproved**

Committee Reason: Allowing nails, timber rivets, wood screws and lag screws in preservative treated wood to be mechanically galvanized is not justified since there does not appear to be any consensus on whether these would perform as well as hot dipped.

Assembly Action: **None**

S79-06/07

Committee Action: **Disapproved**

Committee Reason: Disapproval is for the same reason as S78-06/07.

Assembly Action: **None**

S80-06/07

Committee Action: **Disapproved**

Committee Reason: There are health concerns associated with allowing oil-borne preservatives in interior applications that are not addressed by this proposed code change.

Assembly Action: **None**

S81-06/07

PART I — IBC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

2304.11.2.5 Wood siding. Clearance between wood siding and earth on the exterior of a building shall not be less than 6 inches (152 mm) or less than 2 inches(51 mm) vertical from concrete steps, porch slabs, patio slabs, and similar horizontal surfaces exposed to the weather except where siding, sheathing, and wall framing are of naturally durable or preservative-treated wood.

Committee Reason: The proposal will minimize the exposure of wood siding to decay by elaborating on the minimum clearance requirements at horizontal concrete surfaces. The modification is intended to clarify that the clearance is measured vertically.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

R319.1 Location required. Protection from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative treated in a accordance with AWPA U1 for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA U1.

1. through 4. (No change to current text)
5. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches (152 mm) from the ground or less than 2 inches (51 mm) measured vertically from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather.

Committee Reason: This additional language helps provide a usable measure criteria for material clearances. Without a minimum clearance water that collects on the concrete can result in decay of the wood. The modification specifically calls out that the measurement must be made vertically from concrete steps.

Assembly Action: **None**

S82-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

SECTION 2305
GENERAL DESIGN REQUIREMENTS FOR LATERAL-FORCE-RESISTING SYSTEMS

2305.1 General. Structures using wood shear walls and diaphragms to resist wind, seismic and other lateral loads shall be designed and constructed in accordance with AF&PA SDPWS and the provisions of Section 2305, 2306, and 2307.

2305.1.1 Openings in shear panels. Openings in shear panels that materially affect their strength shall be fully detailed on the plans, and shall have their edges adequately reinforced to transfer all shearing stresses.

2305.2 Diaphragm deflection. The deflection (D) of a blocked wood structural panel diaphragm uniformly fastened throughout with staples is permitted to be calculated by using the following equation. If not uniformly fastened, the constant 0.188 (For SI: 1/1627) in the third term ~~must~~ shall be modified accordingly.

$$\Delta = \frac{5vL^3}{8EAb} + \frac{vL}{4Gt} + 0.188Le_n + \frac{\Sigma(\Delta_c X)}{2b}$$ **(Equation 23-1)**

For SI: $$\Delta = \frac{.052vL^3}{EAb} + \frac{vL}{4Gt} + \frac{Le_n}{1627} + \frac{\Sigma(\Delta_c X)}{2b}$$

Where:

A = Area of chord cross section, in square inches (mm^2).
b = Diaphragm width, in feet (mm).
E = Elastic modulus of chords, in pounds per square inch (N/mm^2).
e_n = Staple deformation, in inches (mm) [see Table ~~2305.2.2(1)~~ 2305.2(1)].
Gt = Panel rigidity through the thickness, in pounds per inch (N/mm) of panel width or depth [see Table ~~2305.2.2(2)~~ 2305.2(2)].
L = Diaphragm length, in feet (mm).
v = Maximum shear due to design loads in the direction under consideration, in pounds per linear foot (plf) (N/mm).
Δ = The calculated deflection, in inches (mm).
$\Sigma(\Delta_c X)$ = Sum of individual chord-splice slip values on both sides of the diaphragm, each multiplied by its distance to the nearest support.

TABLE 2305.2(1)
e_n VALUES (inches) FOR USE IN CALCULATING DIAPHRAGM AND SHEAR WALL DEFLECTION DUE TO FASTENER SLIP (Structural I)[ac]

LOAD PER FASTENER[c] (pounds)	FASTENER DESIGNATIONS 14-Ga staple x 2 inches long
60	0.011
80	0.018
100	0.028
120	0.04
140	0.053
160	0.068
180	-
200	-
220	-
240	-

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 4.448 N.
a. Increase e_n values 20 percent for plywood grades other than Structural I.
b. Load per fastener = maximum shear per foot divided by the number of fasteners per foot at interior panel edges.
c. Decrease e_n values 50 percent for seasoned lumber (moisture content < 19 percent).

TABLE 2305.2(2)
VALUES OF Gt FOR USE IN CALCULATING DEFLECTION OF WOOD STRUCTURAL PANEL SHEAR WALLS AND DIAPHRAGMS
(No change to table contents)

2305.3 Shear wall deflection. The deflection (D) of a blocked wood structural panel shear wall uniformly fastened throughout with staples is permitted to be calculated by the use of the following equation:

$$\Delta = \frac{8vh^3}{EAb} + \frac{vh}{Gt} + 0.75he_n + d_a\frac{h}{b}$$ **(Equation 23-2)**

For SI:

$$\Delta = \frac{vh^3}{3EAb} + \frac{vh}{Gt} + \frac{he_n}{407.6} + d_a\frac{h}{b}$$

where:

A = Area of boundary element cross section in square inches (mm^2) (vertical member at shear wall boundary).
b = Wall width, in feet (mm).
d_a = Vertical elongation of overturning anchorage (including fastener slip, device elongation, anchor rod elongation, etc.) at the design shear load (v).
E = Elastic modulus of boundary element (vertical member at shear wall boundary), in pounds per square inch (N/mm^2).
e_n = Staple deformation, in inches (mm) [see Table ~~2305.2.2(1)~~ 2305.2(1)].
Gt = Panel rigidity through the thickness, in pounds per inch (N/mm) of panel width or depth [see Table ~~2305.2.2(2)~~ 2305.2(2)].
h = Wall height, in feet (mm).
v = Maximum shear due to design loads at the top of the wall, in pounds per linear foot (N/mm).
Δ = The calculated deflection, in inches (mm).

1613.6.1 Assumption of flexible diaphragm. Add the following text at the end of Section 12.3.1.1 of ASCE 7: Diaphragms constructed of wood structural panels or untopped steel decking shall also be permitted to be idealized as flexible, provided all of the following conditions are met:

1. Toppings of concrete or similar materials are not placed over wood structural panel diaphragms except for nonstructural toppings no greater than 11/2 inches (38 mm) thick.
2. Each line of vertical elements of the lateral-force-resisting system complies with the allowable story drift of Table 12.12-1.
3. Vertical elements of the lateral-force-resisting system are light-framed walls sheathed with wood structural panels rated for shear resistance or steel sheets.
4. Portions of wood structural panel diaphragms that cantilever beyond the vertical elements of the lateral-force-resisting system are designed in accordance with Section 4.2.5.2 of AF & PA SDPWS.

TABLE 2306.4.5
ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES FOR SHEAR WALLS OF LATH AND PLASTER OR GYPSUM BOARD WOOD FRAMED WALL ASSEMBLIES
(No change to table contents)

a. These shear walls shall not be used to resist loads imposed by masonry or concrete walls (see Section 4.1.5 of AF & PA SDPWS). Values shown are for short-term loading due to wind or seismic loading. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7. Values shown shall be reduced 25 percent for normal loading.
b. through k. (No change to current text)

Committee Reason: This proposal substitutes a referenced standard for the provisions of Section 2305. The modification helps achieve the intent of the code change to retain IBC provisions pertaining to staple fasteners.

Assembly Action: **None**

S83-06/07

Errata: Replace proposal with the following:

Section: 2306

Proponent: Jeffrey B. Stone, American Forest & Paper Association

Revise as follows:

SECTION 2306
ALLOWABLE STRESS DESIGN

2306.1 Allowable stress design. The structural analysis and construction of wood elements in structures using allowable stress design shall be in accordance with the following applicable standards:

American Forest & Paper Association.
NDS National Design Specification for Wood Construction
SDPWS Special Design Provisions for Wind and Seismic

American Institute of Timber Construction.
AITC 104 Typical Construction Details
AITC 110 Standard Appearance Grades for Structural Glued Laminated Timber
AITC 113 Standard for Dimensions of Structural Glued Laminated Timber
AITC 117 Standard Specifications for Structural Glued Laminated Timber of Softwood Species
AITC 119 Structural Standard Specifications for Glued Laminated Timber of Hardwood Species
AITC A190.1 Structural Glued Laminated Timber
AITC 200 Inspection Manual

American Society of Agricultural Engineers.
ASAE EP 484.2 Diaphragm Design of Metal -Clad, Post-Frame Rectangular Buildings
ASAE EP 486.1 Shallow Post Foundation Design
ASAE 559 Design Requirements and Bending Properties for Mechanically Laminated Columns

APA—The Engineered Wood Association.
Panel Design Specification
Plywood Design Specification Supplement 1 - Design & Fabrication of Plywood Curved Panel
Plywood Design Specification Supplement 2 - Design & Fabrication of Glued Plywood-Lumber Beams
Plywood Design Specification Supplement 3 - Design & Fabrication of Plywood Stressed-Skin Panels
Plywood Design Specification Supplement 4 - Design & Fabrication of Plywood Sandwich Panels
Plywood Design Specification Supplement 5 - Design & Fabrication of All-Plywood Beams
EWS T300 Glulam Connection Details
EWS S560 Field Notching and Drilling of Glued Laminated Timber Beams
EWS S475 Glued Laminated Beam Design Tables
EWS X450 Glulam in Residential Construction
EWS X440 Product and Application Guide: Glulam
EWS R540 Builders Tips: Proper Storage and Handling of Glulam Beams

Truss Plate Institute, Inc.
TPI 1 National Design Standard for Metal Plate Connected Wood Truss Construction

2306.1.1 Joists and rafters. The design of rafter spans is permitted to be in accordance with the *AF&PA Span Tables for Joists and Rafters*.

2306.1.2 Plank and beam flooring. The design of plank and beam flooring is permitted to be in accordance with the *AF&PA Wood Construction Data No. 4*.

2306.1.3 Treated wood stress adjustments. The allowable unit stresses for preservative-treated wood need no adjustment for treatment, but are subject to other adjustments. The allowable unit stresses for fire-retardant-treated wood, including fastener values, shall be developed from an approved method of investigation that considers the effects of anticipated temperature and humidity to which the fire-retardant-treated wood will be subjected, the type of treatment and the redrying process. Other adjustments are applicable except that the impact load duration shall not apply.

2306.1.4 Lumber decking. The capacity of lumber decking arranged according to the patterns described in Section 2304.8.2 shall be the lesser of the capacities determined for flexure and deflection according to the formulas in Table 2306.1.4.

TABLE 2306.1.4
ALLOWABLE LOADS FOR LUMBER DECKING

No change to table contents

~~**2306.2 Wind provisions for walls.**~~

~~**2306.2.1 Wall stud bending stress increase.** The AF&PA NDS fiber stress in bending (*Fb*) design values for sawn lumber wood studs resisting out of plane wind loads shall be increased by the factors in Table 2306.2.1, in lieu of the 1.15 repetitive member factor. These increases take into consideration the load sharing and composite actions provided by the wood structural panels as defined in Section 2302.1. The increases shall apply where the studs are designed for bending and are spaced no more than 16 inches (406 mm) o.c., covered on the inside with a minimum of 1/2-inch (12.7 mm) gypsum board fastened in accordance with Table 2306.4.5 and sheathed on the exterior with a minimum of 3/8-inch (9.5mm) wood structural panel sheathing. All panel joints shall occur over studs or blocking and shall be attached using a minimum of 8d common nails spaced a maximum of 6 inches o.c. (152 mm) at panel edges and 12 inches o.c. (305mm) at intermediate framing members.~~

~~**TABLE 2306.2.1**~~
~~**WALL STUD BENDING STRESS INCREASE FACTORS**~~

2306. 3 Wood diaphragms.

2306. 3.1 Wood structural panel diaphragms. Wood structural panel diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. Wood structural panel diaphragms are permitted to resist horizontal forces using the allowable shear capacities set forth in Table 2306.3.1 or Table 2306.3.2. The allowable shear capacities in Table 2306.3.1 and Table 2306.3.2 are permitted to be increased 40 percent for wind design. ~~calculated by principles of mechanics without limitations by using values for fastener strength in the AF&PA NDS, structural design properties for wood structural panels based on DOC PS-1 and DOC PS-2 or wood structural panel design properties given in the *APA Panel Design Specification* (PDS).~~

TABLE 2306.3.1
RECOMMENDED SHEAR FOR WOOD STRUCTURAL PANEL DIAPHRAGMS WITH FRAMING OF DOUGLAS FIR LARCH OR SOUTHERN PINE FOR WIND AND SEISMIC LOADING.

No change to table contents

TABLE 2306.3.2
ALLOWABLE SHEAR IN POUNDS PER SUQRE FOOT FOR HORIZONTAL BLOCKED DIAPHRAGMS UTILIZING MULTIPLE ROWS OF FASTENERS WITH FRAMING OF DOUGLAS FIR LARCH OR SOUTHERN PINE FOR WIND OR SEISMIC LOADING.

No change to table contents

~~**2306.3.2 Shear capacities modifications.** The allowable shear capacities in Tables 2306.3.1 and 2306.3.2 for horizontal wood structural panel diaphragms shall be increased 40 percent for wind design.~~

~~**2306.3.3 Diagonally sheathed lumber diaphragms.** Diagonally sheathed lumber diaphragms shall be nailed in accordance with Table 2306.3.3.~~

~~**TABLE 2306.3.3**~~
~~**DIAGONALLY SHEATHED LUMBER DIAPHRAGM NAILING SCHEDULE**~~

2306. 3.4 Single diagonally sheathed lumber diaphragms. Single diagonally sheathed lumber diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. ~~Single diagonally sheathed lumber diaphragms shall be constructed of minimum 1-inch (25 mm) thick nominal sheathing boards laid at an angle of approximately 45 degrees (0.78 rad) to the supports. The shear capacity for single diagonally sheathed lumber diaphragms of southern pine or Douglas fir-larch shall not exceed 300 plf (4378N/m) of width. The shear capacities shall be adjusted by reduction factors of 0.82 for framing members of species with a specific gravity equal to or greater than 0.42 but less than 0.49 and 0.65 for species with a specific gravity of less than 0.42, as contained in the AF&PA NDS.~~

~~**2306.3.4.1 End joints.** End joints in adjacent boards shall be separated by at least one stud or joist space and there shall be at least two boards between joints on the same support.~~

~~**2306.3.4.2 Single diagonally sheathed lumber diaphragms.** Single diagonally sheathed lumber diaphragms made up of 2-inch (51 mm) nominal diagonal lumber sheathing fastened with 16d nails shall be designed with the same shear capacities as shear panels using 1-inch (25 mm) boards fastened with 8d nails, provided there are not splices in adjacent boards on the same support and the supports are not less than 4 inch (102mm) nominal depth or 3 inch (76 mm) nominal thickness.~~

2306.3.5 Double diagonally sheathed lumber diaphragms. Double diagonally sheathed lumber diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. ~~Double diagonally sheathed lumber diaphragms shall be constructed of two layers of diagonal sheathing boards at 90 degrees (1.57 rad) to each other on the same face of the supporting members. Each chord shall be considered as a beam with uniform load per foot equal to 50 percent of the unit shear due to diaphragm action. The load shall be assumed as acting normal to the chord in the plan of the diaphragm in either direction. The span of the chord or portion thereof shall be the distance between framing members of the diaphragm, such as the joists, studs and blocking that serve to transfer the assumed load to the sheathing. The shear capacity of double diagonally sheathed diaphragms of Southern pine or Douglas fir-larch shall not exceed 600 plf (8756 kN/m) of width. The shear capacity shall be adjusted by reduction factors of 0.82 for framing members of species with a specific gravity equal to or greater than 0.42 but less than 0.49 and 0.65 for species with a specific gravity of less than 0.42, as contained in the AF&PA NDS. Nailing of diagonally sheathed lumber diaphragms shall be in accordance with Table 2306.3.3.~~

2306.3.6 Gypsum board diaphragm ceilings. Gypsum board diaphragm ceilings shall be in accordance with Section 2508.5.

~~**2306.4 Shear walls.** Panel sheathing joints in shear walls shall occur over studs or blocking. Adjacent panel sheathing joints shall occur over and be nailed to common framing members (see Section 2305.3.1 for limitations on shear wall bracing materials).~~

2306.4.1 Wood structural panel shear walls. Wood structural panel shear walls shall be designed and constructed in accordance with AF&PA SDPWS. Wood structural panel shear walls are permitted to resist horizontal forces using ~~The~~ the allowable shear capacities set forth in ~~for wood structural panel shear walls shall be in accordance with~~ Table 2306.4.1. ~~These~~ Allowable capacities in Table 2306.4.1 are permitted to be increased 40 percent for wind design. ~~Shear walls are permitted to be calculated by principles of mechanics without limitations by using values for nail strength given in the AF&PA NDS and wood structural panel design properties given in the *APA Panel Design Specification.*~~

TABLE 2306.4.1
ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE FOR WIND OR SEISMIC LOADING

No change to table contents

2306.4.2 Lumber sheathed shear walls. Single and double diagonally sheathed lumber ~~diaphragms~~ shear walls shall be designed and constructed in accordance with AF&PA SDPWS. ~~are permitted using the construction and allowable load provisions of Sections 2306.3.4 and 2306.3.5.~~ Single and double diagonally sheathed lumber walls shall not be used to resist seismic loads in structures in Seismic Design Category E or F.

2306.4.3 Particleboard shear walls. Particleboard shear walls shall be designed and constructed in accordance with AF&PA SDPWS. Particleboard shear walls shall be permitted to resist horizontal forces using ~~The design~~ the allowable shear ~~capacity of~~ capacities ~~particleboard shear walls shall be in accordance with~~ set forth in Table 2306.4.3. Allowable capacities in Table 2306.4.3 are permitted to be increased 40 percent for wind design. ~~Shear panels shall be constructed with particleboard sheets not less than 4 feet by 8 feet (1219 mm by 2438 mm), except at boundaries and changes in framing. Particleboard panels shall be designed to resist shear only, and chords, collector members and boundary elements shall be connected at all corners. Panel edges shall be backed with 2-inch (51 mm) nominal or wider framing. Sheets are permitted to be installed either horizontally or vertically. For 3/8-inch (9.5 mm) particleboard sheets installed with the long dimension parallel to the studs spaced 24 inches (610 mm) o.c, nails shall be spaced at 6 inches (152 mm) o.c. along intermediate framing members. For all other conditions, nails of the same size shall be spaced at 12 inches (305mm)o.c. along intermediate framing members. Particleboard panels less than 12 inches (305 mm) wide shall be blocked.~~ Particleboard shall not be used to resist seismic forces in structures in Seismic Design Category D, E or F.

TABLE 2306.4.3
ALLOWABLE SHEAR FOR PARTICLEBOARD SHEAR WALL SHEATHING

No change to table contents

2306.4.4 Fiberboard shear walls. Fiberboard shear walls shall be designed and constructed in accordance with AF&PA SDPWS. Fiberboard shear walls are permitted to resist horizontal forces using ~~The design~~ the allowable shear ~~capacity of~~ capacities ~~fiberboard shear walls shall be in accordance with~~ set forth in Table 2306.4.4. Allowable capacities in Table 2306.4.4 are permitted to be increased 40 percent for wind design. ~~The fiberboard sheathing shall be applied vertically or horizontally to wood studs not less than 2 inch (51 mm) in nominal thickness spaced 16 inches (406 mm) o.c. Blocking not less than 2 inch (51 mm) nominal in thickness shall be provided at horizontal joints.~~ Fiberboard shall not be used to resist seismic forces in structures in Seismic Design Category D, E or F.

TABLE 2306.4.4
ALLOWABLE SHEAR VALUES (plf) FOR WIND OR SEISMIC LOADING ON VERTICAL DIAPHRAGMS OF FIBERBOARD SHEATHING BOARD CONSTRUCTION FOR TYPE V CONSTRUCTION ONLY

No change to table contents

2306.4.5 Shear walls sheathed with other materials. Shear walls sheathed with portland cement plaster, gypsum lath, gypsum sheathing, or gypsum board shall be designed and constructed in accordance with AF&PA SDPWS. Shear walls sheathed with these materials are permitted to resist horizontal forces using the allowable ~~Shear~~ shear capacities ~~for walls sheathed with lath, plaster or gypsum board shall be in accordance with~~ set forth in Table 2306.4.5. ~~Shear walls sheathed with lath, plaster or gypsum board shall be constructed in accordance with Chapter 25 and Section 2306.4.5.1. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7.~~ Shear walls sheathed with portland cement plaster, gypsum lath, gypsum sheathing, or gypsum board shall not be used to resist seismic loads in structures in Seismic Design Category E or F.

TABLE 2306.4.5
ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES FOR SHEAR WALLS OF LATH AND PLASTER OR GYPSUM BOARD WOOD FRAMED WALL ASSEMBLIES

No change to table contents

~~**2306.4.5.1 Application of gypsum board or lath and plaster to wood framing.**~~

~~**2306.4.5.1.1 Joint staggering.** End joints of adjacent courses of gypsum board shall not occur over the same stud.~~

~~**2306.4.5.1.2 Blocking.** Where required in Table 2306.4.5, wood blocking having the same cross-sectional dimensions as the studs shall be provided at joints that are perpendicular to the studs.~~

~~**2306.4.5.1.3 Fastening.** Studs, top and bottom plates and blocking shall be fastened in accordance with Table 2304.9.1.~~

~~**2306.4.5.1.4 Fasteners.** The size and spacing of fasteners shall be set forth in Table 2306.4.5. Fasteners shall be spaced not less than 3/8 inch (9.5 mm) from edges and ends of gypsum boards or sides of studs, blocking and top and bottom plates.~~

~~**2306.4.5.1.5 Gypsum lath.** Gypsum lath shall be applied perpendicular to the studs. Maximum allowable shear values shall be as set forth in Table 2306.4.5.~~

~~**2306.4.5.1.6 Gypsum sheathing.** Four-foot-wide (1219 mm) pieces of gypsum sheathing shall be applied parallel or perpendicular to studs. Two-foot-wide (610 mm) pieces of gypsum sheathing shall be applied perpendicular to the studs. Maximum allowable shear values shall be as set forth in Table 2306.4.5.~~

~~**2306.4.5.1.7 Other gypsum boards.** Gypsum board shall be applied parallel or perpendicular to studs. Maximum allowable shear values shall be as set forth in Table 2306.4.5.~~

Reason: Provisions being deleted from Section 2306 of the IBC are also contained in the AF&PA *Special Design Provisions for Wind and* Seismic (AF&PA SDPWS) which is currently adopted by reference. Deleted provisions are primarily for the building designer and duplication of the provisions is not necessary and causes confusion. However; this proposed change retains tabulated values of ASD unit shear capacity for shear walls and diaphragms as the building code has been the primary source of this information for many years. ASD unit shear capacities for shear walls and diaphragms can also be obtained directly from the SDPWS-05. Over time, it is desired that all the design provisions, including tabulated ASD unit shear capacities, be obtained by reference to the SDPWS. Provisions of the IBC Section 2306 are covered in SDPWS-05 as shown in Table 2306.

Table 2306. Comparison of IBC Section 2306 and SDPWS-05

IBC Section 2306	SDPWS-05	Comment
2306.2.1	3.1.1.1	Same
Table 2306.2.1	Table 3.1.1.1	Same
2306.3.1	4.1.2	Same
2306.3.2	Table 4.2A-C	Same except increase for wind is incorporated in SDPWS design value tables.
2306.3.3	4.2.7.2, 4.2.7.3	Same
2306.3.4	4.2.7.2	Same except 40% increase is recognized for wind design consistent with SDPWS.
2306.3.4.1	4.2.7.2	Same
2306.3.4.2	4.2.7.2	Same
2306.3.5	4.2.7.3	Same except 40% increase is recognized for wind design consistent with SDPWS.
2306.4	4.3.7	Same
2306.4.1	4.1.2	Same
2306.4.3	4.3.7.2	Same except 40% increase is recognized for wind design consistent with SDPWS.
2306.4.4	4.3.7.3	Same except 40% increase ins recognized for wind design consistent with SDPWS.
2306.4.5.1	4.3.7.4	Same
2306.4.5.1.1	4.3.7.4	Same
2306.4.5.1.2	4.3.7.4	Same
2306.4.5.1.3	4.3.7.4	Same
2306.4.5.1.4	4.3.7.4	Same
2306.4.5.1.5	4.3.7.4.3	Same
2306.4.5.1.6	4.3.7.4.2	Same
2306.4.5.1.7	4.3.7.4	Same

With removal of duplicate information, it is suggested that remaining sections be numbered as follows:

SECTION 2306
ALLOWABLE STRESS DESIGN
2306.1 Allowable stress design.
2306.1.1 Joists and rafters.
2306.1.2 Plank and beam flooring.
2306.1.3 Treated wood stress adjustments.
2306.1.4 Lumber decking.
2306.2 Wood diaphragms.
2306.2.1 Wood structural panel diaphragms.
2306.2.2 Single diagonally sheathed lumber diaphragms.
2306.2.3 Double diagonally sheathed lumber diaphragms.
2306.2.4 Gypsum board diaphragm ceilings.
2306.3 Shear walls.
2306.3.1 Wood structural panel shear walls.
2306.3.2 Lumber sheathed shear walls.
2306.3.3 Particleboard shear walls.
2306.3.4 Fiberboard shear walls.
2306.3.5 Shear walls sheathed with other materials.

Cost Impact: The code change proposal will not increase the cost of construction.

Committee Action: **Approved as Submitted**

Committee Reason: Relying on a referenced standard for the technical provisions for allowable stress design of wood is consistent with the action taken on S82-06/07.

Assembly Action: **None**

S84-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved due to the deletion of Table 2305.3.4 by code change S82-06/07.

Assembly Action: **None**

S85-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based on the approval of code change S82-06/07.

Assembly Action: **None**

S86-06/07 **Withdrawn by Proponent**

S87-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based on the approval of code change S82-06/07.

Assembly Action: **None**

S88-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based on the approval of code change S82-06/07.

Assembly Action: **None**

S89-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based on the approval of code change S82-06/07.

Assembly Action: **None**

S90-06/07

PART I — IBC
Committee Action: **Approved as Modified**

Modify proposal as follows:

~~**2305.3.11 Sill plate size and anchorage in Seismic Design Category D, E or F.** Shear wall sill plates shall be anchored with a Anchor bolts with steel plate washers, between the sill plate and nut or with approved anchor straps load rated in accordance with section 1715.1 and spaced to provide equivalent anchorage. Steel plate washers shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16 inch (4.76 mm) larger than the bolt diameter and a slot length not to exceed 13/4 inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut. Sill plates resisting a design load greater than 490 plf (7154 N/m) using load and resistance factor design or 350 plf (5110 N/m) using allowable stress design shall not be less than a 3-inch (76 mm) nominal member. Where a single 3- inch (76 mm) nominal sill plate is used, 2- 20d box end nails shall be substituted for 2-16d common end nails found in line 8 of Table 2304.9.1.~~

> ~~**Exception:** In shear walls where the design load is greater than 490 plf (7151 N/m) but less than 840 plf (12 264 N/m) using load and resistance factor design or greater than 350 plf (5110 N/m) but less than 600 plf (8760 N/m) using allowable stress design, the sill plate is permitted to be a 2-inch (51 mm) nominal member if the sill plate is anchored by two times the number of bolts or anchor straps required by design and 0.229-inch by 3-inch by 3-inch (5.82mmby 76mmby 76mm) plate washers are used.~~

2308.6 Foundation plates or sills. Foundations and footings shall be as specified in Chapter 18. Foundation plates or sills resting on concrete or masonry foundations shall comply with Section 2304.3.1. Foundation plates or sills shall be bolted or anchored to the foundation with not less than 1/2-inch-diameter (12.7 mm) steel bolts or approved anchors spaced to provide equivalent anchorage as the steel bolts. Bolts shall be embedded at least 7 inches (178 mm) into concrete or masonry, and spaced not more than 6 feet (1829 mm) apart. There shall be a minimum of two bolts or anchor straps per piece with one bolt or anchor strap located not more than 12 inches (305 mm) or less than 4 inches (102 mm) from each end of each piece. A properly sized nut and washer shall be tightened on each bolt to the plate.

2308.12.8 Sill plate anchorage. Sill plates shall be anchored with anchor bolts with steel plate washers between the foundation sill plate and the nut, or approved anchor straps load rated in accordance with Section 1715.1. Such washers shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16 inch (4.76 mm) larger than the bolt diameter and a slot length not to exceed 1 ¾ inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

2308.12.9 Sill plate anchorage in Seismic Design Category E. Steel bolts with a minimum nominal diameter of ⅝ inch (15.9 mm) or approved foundation anchor straps load rated in accordance with Section 1715.1 and spaced to provide equivalent anchorage shall be used in Seismic Design Category E.

Committee Reason: The code change allows the use of anchor straps as an alternative for foundation anchorage. The modification is for consistency with the action taken on S82-06/07.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Submitted**

Committee Reason: This change, allowing the use of anchor straps, provides a technique that adds versatility to the code.

Assembly Action: **None**

S91-06/07 Withdrawn by Proponent

S92-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did not comply with ICC criteria for referenced standards, Section consensus process

Committee Action: **Disapproved**

Committee Reason: This code change was disapproved because the proposed referenced standard was not in compliance with the ICC standards creiteria.

Assembly Action: **None**

S93-06/07 Withdrawn by Proponent

S94-06/07 Withdrawn by Proponent

S95-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based on the approval of code change S83-06/07.

Assembly Action: **None**

S96-06/07 Withdrawn by Proponent

S97-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based on the approval of code change S83-06/07.

Assembly Action: **None**

S98-06/07

Committee Action: **Approved as Modified**

Modify the proposal as follows:

TABLE 2306.4.5
ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES FOR SHEAR WALLS OF LATH AND PLASTER OR GYPSUM BOARD WOOD FRAMED WALL ASSEMBLIES

TYPE OF MATERIAL	THICKNESS OF MATERIAL	WALL CONSTRUCTION	FASTENER SPACING[b] MAXIMUM (inches)	SHEAR VALUE[a, e] (plf)	MINIMUM FASTNER SIZE[c,d,j,k]
2. Gypsum lath, plain or perforated with vertical joints staggered	⅜" lath and ½" plaster	Unblocked	5	180	No. 13 gage, 1⅛" long, $^{19}/_{64}$" head, plasterboard nail ~~0.120" Nail, min ⅜" head, 1¼" long~~
3. Gypsum lath, plain or perforated	⅜" lath and ½" plaster	Unblocked	5	100	16 Ga. Galv. Staple, 1 ⅛" long 0.120" Nail, min ⅜" head, 1¼" long

(Portions of table not shown remain unchanged)

Committee Reason: The proposal adds a valuable option for shear wall buildings. The proponent provided adequate testing and verification for increasing the allowable shear. The modification clarifies that the vertical joints must be staggered since that is what was tested in justifying the higher shear values. In addition the modification retains the current allowable shear values since these would still be permissible if joints are not staggered.

Assembly Action: **None**

S99-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This change adds a cross-reference to the standard that was adopted for lateral design by S82-06/07.

Assembly Action: **None**

S100-06/07

PART I — IBC
Committee Action: **Approved as Modified**

Modify proposal as follows:

2308.2 Limitations. Buildings are permitted to be constructed in accordance with the provisions of conventional light-frame construction, subject to the following limitations, and to further limitations of Sections 2308.11 and 2308.12.

1. Buildings shall be limited to a maximum of three stories above grade plane. For the purposes of this section, for buildings in Seismic Design Category D or E as determined in Section 1613, cripple stud walls shall be considered to be a story.

   Exception: Solid blocked cripple walls not exceeding 14 inches (356 mm) in height need not be considered a story.

2. Maximum floor-to-floor height shall not exceed 11 feet 7 inches (mm). Bearing wall ~~story~~ height shall not exceed a stud height of 10 feet (3048 mm). ~~plus a height of floor framing not to exceed 16 inches (406 mm). Floor framing height shall be permitted to exceed this limit provided the story height limit is not exceeded.~~

(No changes to items 3 through 7)

Committee Reason: This proposal clarifies the limitation on story height under the conventional construction provisions. The modification states the maximum floor to floor height directly.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

R301.3 Story height. Buildings constructed in accordance with these provisions shall be limited to story heights of not more than the following:

(Not change to items 1 - 4)

Individual walls or walls studs shall be permitted to exceed these limits as permitted by Chapter 6 provisions, provided story heights are not exceeded. Floor framing height shall be permitted to exceed these limits provided the story height ~~limit is not exceeded.~~ does not exceed 11'-7".

An engineered design shall be provided for the wall or wall framing members when they exceed the limits of Chapter 6. Where the story height limits are exceeded, an engineered design shall be provided in accordance with the International Building code for the overall wind and seismic force resisting systems.

Committee Reason: This change passed IBC Structural. Passing this keeps the code language the same in the IBC and the IRC. The adedd language allows more design flexibility and would allow I joists in garages and others where a longer uninterrupted span is desired or required.

Assembly Action: **None**

S101-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change aligns the wind limitations for the IBC conventional construction provisions with those in the IRC.

Assembly Action: **None**

S102-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This proposal clarifies the conventional construction provisions pertaining to the use of stone or masonry veneer. The necessary weight limitations are currently stated in Section 2308.2.

Assembly Action: **None**

S103-06/07

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved at the proponent's request so that a revised proposal can be submitted as a public comment.

Assembly Action: **None**

S104-06/07

Committee Action: **Disapproved**

Committee Reason: The design pressures for plastic glazed unit skylights should be handled through the appropriate consensus standard.

Assembly Action: **None**

S105-06/07

PART I — IBC
Committee Action: **Approved as Modified**

Modify proposal as follows:

2406.1.1 Impact test. Except as provided in Sections 2406.1.2 through 2406.1.4, all glazing shall pass the impact test requirements of Section 2406.2.

2406.2 Impact test. Where required by other sections of the Code, glazing shall be tested in accordance with CPSC 16 CFR 1201. Glazing shall comply with the test criteria for Category I or II as indicated in Table 2406.2(1)

> **Exception:** Glazing not in doors or enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers shall be permitted to be tested in accordance with ANSI Z97.1. Glazing shall comply with the test criteria for Class A or B as indicated in Table 2406.2(2).

TABLE 2406.2(1)
MINIMUM CATEGORY CLASSIFICATION OF GLAZING USING CPSC 16 CFR 1201

(No change to table contents)

TABLE 2406.2(2)
MINIMUM CATEGORY CLASSIFICATION OF GLAZING USING ANSI Z97.1

EXPOSED SURFACE AREA OF ONE SIDE OF ONE LITE	~~GLAZING IN STORM OR COMBINATION DOORS (Category class)~~	~~GLAZING IN DOORS (Category class)~~	GLAZED PANELS REGULATED BY ITEM 7 OF SECTION 2406.3 (Category class)	GLAZED PANELS REGULATED BY ITEM 6 OF SECTION 2406.3 (Category class)	DOORS AND ENCLOSURES REGULATED BY ITEM 5 OF SECTION 2406.3[a] (Category class)	~~SLIDING GLASS DOORS PATIO TYPE (Category class)~~
9 square feet or less	~~B~~	~~B~~	No requirement	B	A	~~A~~
More than 9 square feet	~~A~~	~~A~~	A	A	A	~~A~~

a. Use is only permitted by the Exception to Section 2406.2.

Chapter 35:

ANSI
Z97.1- 04

Committee Reason: This proposal updates the code to include an exception for Class A and B glazing in accordance with the ANSI standard. The modification clarifies the intention by removing table columns that could lead to misapplication of the code.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: There was a modification proposed to this code change proposal when it was heard by the structural committee. The IRC B/E committee voted to disapprove the proposed change since the modification was not also brought before this committee. The proponent was not present to answer questions or provide the modification.

Assembly Action: **None**

S106-06/07

PART I — IBC
Committee Action: **Approved as Submitted**

Committee Reason: The code change adds an appropriate standard reference and is consistent with the action on S105-06/07.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: The two standards; CPSC 16 CFR and the standard proposed to be added ANSI Z97.1 are not the same and should not be listed as alternatives for one another.

Assembly Action: **None**

S107-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard ASTM E 2353 indicated that, in the opinion of ICC staff, the standard did comply with ICC criteria for referenced standards. Review of proposed new standard ASTM E 2358 indicated that, in the opinion of ICC staff, the standard did not comply with ICC criteria for referenced standards, Section 3.6.2.2 Appropriate for subject.

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved at the proponent's request so that a revised proposal can be submitted as a public comment.

Assembly Action: **None**

S108-06/07

Committee Action: **Approved as Modified**

Modify proposal as follows:

2407.1.2 Support. Each handrail or guard section shall be supported by a minimum of three glass balusters or shall be otherwise supported to remain in place should one baluster panel fail. Glass balusters shall not be installed without an attached handrail or guard.

Exception: A top rail shall not be required where the glass balusters are laminated glass with two or more glass plies of equal thickness and the same glass type when approved by the building official. The panels shall be designed to withstand the loads specified in Section 1607.7.

Committee Reason: The code change adds an option to a top rail that is now often permitted as an alternative method. The modification requires the approval of the building official and is intended to address a concern that in some uses such as schools and hospitals, glass breakage is not acceptable.

Assembly Action: **None**

S109-06/07

Committee Action: **Disapproved**

Committee Reason: In addition to using permissive language, there are many technical issues that are disputed and should be resolved before these shower enclosure provisions can be accepted.

Assembly Action: **None**

S110-06/07

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC staff, the standard did comply with ICC criteria for referenced standards.

Committee Action: **Disapproved**

Committee Reason: This proposal appears to be out of place in this section since this is not an exception where "joint treatment" is not required but is instead an alternate product. Additionally the text addresses gypsum board being fastened with these materials. Item 2.3 would appear to be more appropriate for determining the acceptance under the standard and does not seem to be needed within the code. The committee did recognize that this is somewhat of a "chicken or the egg" issue. This can not go into the code because there is no standard, but because the code does not address it, there is no standard developed to test it. While conceptually fine, this proposal would create confusion regarding which test and product are acceptable when testing. The proposal should be coordinated with Table 2506.2 so that a conflict does not develop with the existing code requirements for gypsum board.

Assembly Action: **None**

S111-06/07

PART I — IBC
Committee Action: **Disapproved**

Committee Reason: The committee's disapproval was based on questions that were raised about the water-resistance of products complying with ASTM C 1278. There is not a consensus that these would be equivalent to products meeting ASTM C 1178.

Assembly Action: **None**

PART II — IRC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

R702.3.8 Water-resistant gypsum backing board. Gypsum board used as the base or backer for adhesive application of ceramic tile or other required nonabsorbent finish material shall conform to ASTM ~~C 630~~ C 1396, C 1178 or C 1278. Use of water-resistant gypsum backing board shall be permitted on ceilings where framing spacing does not exceed 12 inches (305 mm) on center for 1/2-inch-thick (12.7 mm) or 16 inches (406 mm) for 5/8-inch-thick (15.9 mm) gypsum board. Water-resistant gypsum board shall not be installed over a vapor retarder in a shower or tub compartment. All cut or exposed edges, including those at wall intersections, shall be sealed as recommended by the manufacturer.

R702.4.2 ~~Cement~~ Fiber-cement, fiber-mat reinforced cement, glass mat gypsum backers and fiber-reinforced gypsum backers. ~~Cement~~ Fiber-cement, fiber-mat reinforced cement, glass mat gypsum backers or fiber-reinforced gypsum backers in compliance with ASTM C 1288, C 1325, C 1178 or C 1278, respectively, and installed in accordance with manufacturers' recommendations shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas.

Committee Reason: This change adds an additional new and improved ASTM material standard to this section. The modification corrects the reference to the proper ASTM standard and aligns the material descriptive code language with the terminology used in the referenced ASTM material standard.

Assembly Action: **None**

S112-06/07

Errata: Revise Part I of code change to read as follows:

2509.2 Base for tile. Glass mat gypsum, ~~Cement,~~ fiber-cement or ~~glass mat gypsum~~ fiber-mat reinforced cement backers in compliance with ASTM C 1178, C 1288 or C 1325 and installed in accordance with manufacturer recommendations shall be used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas. Water-resistant gypsum backing board shall be used as a base for tile in water closet compartment walls when installed in accordance with GA-216 or ASTM C 840 and manufacturer recommendations. Regular gypsum wallboard is permitted under tile or wall panels in other wall and ceiling areas when installed in accordance with GA-216 or ASTM C 840.

PART I — IBC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

2509.2 Base for tile. Glass mat water-resistant gypsum backing panels, discrete non-asbestos fiber-cement interior substrate sheets or non-asbestos fiber-mat reinforced cement substrate sheets ~~backers~~ in compliance with ASTM C 1178, C 1288 or C 1325 and installed in accordance with manufacturer recommendations shall be used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas. Water-resistant gypsum backing board shall be used as a base for tile in water closet compartment walls when installed in accordance with GA-216 or ASTM C 840 and manufacturer recommendations. Regular gypsum wallboard is permitted under tile or wall panels in other wall and ceiling areas when installed in accordance with GA-216 or ASTM C 840.

Committee Reason: This code change provides clarity on the materials to be used as a base for tile. The modification makes the wording more consistent with the referenced standard for these materials.

Assembly Action: **None**

PART II — IRC
Committee Action: **Disapproved**

Committee Reason: Based upon the action on code change S111-06/07, Part II.

Assembly Action: **None**

S113-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change improves the terminology for cement plaster provisions by making it consistent with ASTM C926.

Assembly Action: **None**

S114-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This change makes the number of cement plaster coats that are required over gypsum backing board consistent with ASTM C 926.

Assembly Action: **None**

S115-06/07

Errata: Add the following standard update

DOC
PS 20- ~~99~~ 05 American Softwood Lumber Standard

Committee Action: **Approved as Modified**

Modify the proposal as follows:

ASTM	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428-2959
Standard reference number	Title
A 615/A 615M-~~05a~~ 04a	Specification for Deformed and Plain Billet-steel Bars for Concrete Reinforcement
A 706/A 706M-~~05a~~ 04a	Specification for Low-alloy Steel Deformed and Plain Bars for Concrete Reinforcement

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal makes necessary updates to existing refernced standards. The modification retains the current edition of ASTM standards that are also referenced by ACI 318 for consistency with that standard.

Assembly Action: **None**

S116-06/07

Committee Action: **Approved as Submitted**

Committee Reason: This code change makes editorial changes that improve the provisions for roof live load reductions as well as flexible diaphragms under seismic loads.

Assembly Action: **None**

S117-06/07

Errata: The following proposal was not published in the monograph:

Table 2306.4.4

Proponent: Louis Wagner, American Fiberboard Association

Delete Table 2306.4.4 and substitute as follows:

TABLE 2306.4.4
ALLOWABLE SHEAR VALUES (plf) FOR WIND OR SEISMIC LOADING ON SHEAR WALLS OF FIBERBOARD SHEATHING BOARD CONSTRUCTION FOR TYPE V CONSTRUCTION ONLY [a,b,c,d,e]

THICKNESS AND GRADE	FASTENER SIZE	ALLOWABLE SHEAR VALUE (pounds per linear foot) nail spacing at panel edges (inches)[a]		
		4	3	2
1/2" or 25/32" Structural	No. 11 gage galvanized roofing nail 1-1/2" long for ½", 1-3/4" for 25/32" with 3/8" head	170	230	260
	No. 16 gage galvanized staple, 7/16" crown [f]	150	200	225
	No. 16 gage galvanized staple, 1" crown [f]	220	290	325

For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.5939 N/m

a .Fiberboard sheathing shall not be used to brace concrete or masonry walls.

b. Panel edges shall be backed with 2 inch or wider framing of Douglas fir-larch or Southern pine. For framing of other species: (1) Find specific gravity for species of framing lumber in AF&PA NDS. (2) For staples, multiply the shear value from the table above by 0.82 for species with specific gravity of 0.42 or greater, or 0.65 for all other species. (3) For nails, multiply the shear value from the table above by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5-SG)], where SG = Specific gravity of the framing lumber.

c. Values shown are for fiberboard sheathing on one side only with long panel dimension either parallel or perpendicular to studs.

d Fastener shall be spaced 6 inches on center along intermediate framing members.

e. Values are not permitted in Seismic Design Category D, E, or F.

f. Staple length shall not be less than 1-1/2" for 25/32-inch sheathing or 1-1/4" for 1/2-inch sheathing.

Reason: This change incorporates revisions consistent with those implemented in the reference document SDPWS-05 for nailed fiberboard shear walls. Nailed values are based on requirements in ASTM C208 for fiberboard and test results in PFS Test Report #96-60 such that the minimum target ratio of test load to allowable load is 2.8 Test results for 2 inch edge nail spacing are adjusted for 3" and 4" edge nail spacing assuming load per nail for 2 inch edge nailing is 75% of that for less dense 3 inch and 4 inch edge nail patterns. The ratio of 75% is based on minimum requirements of ASTM C208 for 3 inch edge nail spacing. During a prior change submittal, cyclic data was not available for fiberboard shear walls. Cyclic testing has been conducted and results are reported in WMEL-2002-03 (see page 56). Results confirm adequacy in resisting cyclic loads as the ratio of cyclic to monotonic strength values were equivalent to those for wood structural panel control walls. Stapled values are derived from tests (PFS Test Report #96-60) in a consistent manner to nailed values such that the minimum target ratio of test load to allowable load will be 2.8. Values are not permitted for lateral resistance in Seismic Design Categories D, E, or F consistent with provisions of the SDPWS-05 for nailed fiberboard shear walls.

Bibliography:
Special Design Provisions for Wind and Seismic (SDPWS) 2005 Edition American Forest & Paper Association
Available at http://www.awc.org/pdf/windsiesmicsupp.pdf
Monotonic and Cyclic Tests of Shear Walls With Gypsum Wallboard, Fiberboard and Hardboard Siding
Report No. WMEL-2002-03 Dolan and Toothman
Available at www.fiberboard.org
PFS Test Report#96-60 Available at www.fiberboard.org

Cost Impact: The code change proposal will not increase the cost of construction.

Committee Action: **Approved as Submitted**

Committee Reason: This proposal provides updated allowable shear values for fiberboard sheathing that should be included since they are based on cyclic testing.

Assembly Action: **None**