REPRESENTING THE STRUCTURAL BUILDING COMPONENTS INDUSTRY

Comparisons Between 2001 and 2007 Title 24 – Some Items of Interest

Section (Edition)	2007 Edition	2001 Edition	Comment
	Based on 2006 IBC format and layout	Based on UBC format & layout	Information in Chapters is inclusive. No longer need to reference different volumes
	Design & fabrication of MPCW trusses per ANSI/TPI 1-2002	Design & fabrication of MPCW trusses per ANSI/TPI 1-1995	
Chapter 16 – Structural Design			
	ASCE 7-05	ASCE 7-95 Chapter 6 (Wind)	2007 edition of Title 24 References 2005 edition of ASCE 7, *Minimum Design Loads for Buildings and Other Structures*
1603 (07)	Information on Construction Documents		Establishes minimum information required on construction documents in terms of the location and magnitude of design loads
1605.2 (07)	LRFD Load Combinations - revised to ASCE 7-05		
1605.3 (07)	ASD Load Combinations - revised to ASCE 7-05		
1607.5 (07)	Partition Load is now considered a live load and has been reduced from 20 psf to 15 psf per ASCE 7-05		
Table 1607.1 (07)	Minimum Uniformly Distributed and Concentrated Live Loads	Tables 16-A, 16-B & 16-C	Single Table now includes much of the minimum live load information formerly found in three tables.
Table 1607.1 (07) (See Attached)	Added 300 lb concentrated roof load consideration. Increased exposed BC concentrated from 200 to 300.		Could affect design where uniform roof live loads are light.
	Footnotes i, j & k provide design considerations for Uninhabitable attics without storage, with limited storage and habitable attics for One- and Two-family residences		These provisions are from the BOCA National Building Code and are new to California.
1608 (07)	Snow loads - includes no provisions, references ASCE 7-05.		Will require evaluation of ice-dams at roof eaves and new consideration of drift surcharge at gable roofs.
1609 (07)	Wind loads - references ASCE 7-05	Wind loads - references ASCE 7-95	
1611.2 (07)	Ponding instability. Includes provisions for the design of roofs		

	with a slope less than ¼ inch per foot to include verification of adequate stiffness to preclude progressive deflection in accordance with Section 8.4 of ASCE 7		
1611.3 (07)	Controlled Drainage. Includes provisions for roofs to support additional weight of water resulting hardware used to control the rate of drainage.		
1613 (07)	Earthquake Loads – design provisions per ASCE 7-05 excluding Chapters 14,*Material Specific Seismic Design and Detailing Requirements* and Appendix 11A, *Quality Assurance Provisions*		
Chapter 16A (07)	Structural Design		Structural Design provisions for applications regulated by DSA-SS
Chapter 23 - Wood			
Chapter 23 (07)	Wood		No longer Chapter 23A for applications regulated by DSA-SS. DSA-SS amendments are included in Chapter 23
2303.4 (07) (See Attached)	Trusses	2304.4.4 and Division V	Section 2303.4 replaces Sections 2304.4.4 and Division V – Design Standards for Metal Plate Connected Wood Truss. Truss marking provisions of 2321.3 are no longer required
Table 2304.9.1 (07)	Fastening Schedule		Added actual nail sizes to standard naming convention.
2305 (07)	General Design Requirements for Lateral-Force-Resisting Systems		Allows use of AF&PA SDPWS for lateral design subject to the limitations of the code
2308 (07)	Conventional Light-Frame Construction		Replaces provisions of Division IV-Conventional Light-Frame Construction
2308.2	Limitations - Establishes limitations for which the conventional light-frame construction provisions are based, including: 1. number of stories $\leq$ 3, 2. bearing wall floor-to-floor height $\leq$ 11'-2", 3. Loads 3.1 Average dead load $\leq$ 15 psf, 3.2 Live load for floors $\leq$ 40 psf,		

	3.3 Ground snow loads ≤ 50 psf, 4. Wind speed ≤ 100 mph, 5. Roof trusses and rafters with spans between bearing ≤ 40 ft, 6. the conventional light-frame construction provisions are not permitted for Occupancy Category IV buildings, 7. Limits on irregular structures in Seismic D or E, 8. Special restrictions for applications governed by DSA-SS and OSHPD 1,2 and 4		Note this provision is limited by the allowable loads that the prescriptive walls and headers can support and does not mean that trusses are limited in Title 24 to 40 ft spans.
2308.3 (07)	Braced Wall Lines – Spacing not to exceed 35 feet.		Was 34 feet if basic wind speed ≤ 80 mph & and Seismic Zones 0, 1, 2 & 3, and 25 ft if basic wind speed > 80 mph or Seismic Zone 4.
2308.10.1 (07)	Wind uplift. Roof assemblies shall have rafter and truss ties to the wall below. Resultant uplift loads shall be transferred to the foundation using a continuous load path. The rafter or truss to wall connection shall comply with Tables 2304.9.1 and 2308.10.1.		Adds prescriptive requirements for uplift.
Table 2308.10.1 (07) (see Attached)	New table with required rating of approved uplift connectors for various wind speeds and roof spans		Table values are based wind loading on end zones using the Main Wind Force Resisting System – Simplified Procedure of ASCE 7-05.

TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND MINIMUM CONCENTRATED LIVE LOADS[g]

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
1. Apartments (see residential)	—	—
2. Access floor systems		
Office use	50	2,000
Computer use	100	2,000
3. Armories and drill rooms	150	—
4. Assembly areas and theaters		
Fixed seats (fastened to floor)	60	
Follow spot, projections and control rooms	50	—
Lobbies	100	
Movable seats	100	
Stages and platforms	125	
5. Balconies	100	
On one- and two-family residences only, and not exceeding 100 sq ft	60	—
6. Bowling alleys	75	—
7. Catwalks	40	300
8. Dance halls and ballrooms	100	—
9. Decks	Same as occupancy served[h]	—
10. Dining rooms and restaurants	100	—
11. Dwellings (see residential)	—	—
12. Cornices	60	—
13. Corridors, except as otherwise indicated	100	—
14. Elevator machine room grating (on area of 4 in^2)	—	300
15. Finish light floor plate construction (on area of 1 in^2)	—	200
	—	
16. Fire escapes	100	
On single-family dwellings only	40	—
17. Garages (passenger vehicles only)	40	Note a
Trucks and buses	See Section 1607A.6	
18. Grandstands (see stadium and arena bleachers)	—	—
19. Gymnasiums, main floors and balconies	100	—
20. Handrails, guards and grab bars	See Section 1607A.7	
21. Hospitals		
Corridors above first floor	80	1,000
Operating rooms, laboratories	60	1,000
Patient rooms	40	1,000
22. Hotels (see residential)	—	—
23. Libraries		
Corridors above first floor	80	1,000
Reading rooms	60	1,000
Stack rooms	150[b]	1,000

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
24. Manufacturing		
Heavy	250	3,000
Light	125	2,000
25. Marquees	75	—
26. Office buildings		
Corridors above first floor	80	2,000
File and computer rooms shall be designed for heavier loads based on anticipated occupancy	—	—
Lobbies and first-floor corridors	100	2,000
Offices	50	2,000
27. Penal institutions		
Cell blocks	40	—
Corridors	100	
28. Residential		
One- and two-family dwellings		
Uninhabitable attics without storage[i]	10	
Uninhabitable attics with limited storage[i,j,k]	20	
Habitable attics and sleeping areas	30	
All other areas except balconies and decks	40	—
Hotels and multiple-family dwellings		
Private rooms and corridors serving them	40	
Public rooms and corridors serving them	100	
29. Reviewing stands, grandstands and bleachers	Note c	
30. Roofs		
All roof surfaces subject to maintenance workers		300
Awnings and canopies		
Fabric construction supported by a lightweight rigid skeleton structure	5 nonreduceable	
All other construction	20	
Ordinary flat, pitched, and curved roofs	20	
Primary roof members, exposed to a work floor		
Single panel point of lower chord of roof trusses or any point along primary structural members supporting roofs:		
Over manufacturing, storage warehouses, and repair garages		2,000
All other occupancies	Note l	300 Note l
Roofs used for other special purposes	60	
Roofs used for promenade purposes	100	
Roofs used for roof gardens or assembly purposes		

TABLE 1607.1—continued
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND MINIMUM CONCENTRATED LIVE LOADS[g]

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
31. Schools		
Classrooms	40	1,000
Corridors above first floor	80	1,000
First-floor corridors	100	1,000
32. Scuttles, skylight ribs and accessible ceilings	—	200
33. Sidewalks, vehicular driveways and yards, subject to trucking	250[d]	8,000[e]
34. Skating rinks	100	—
35. Stadiums and arenas		
Bleachers	100[c]	—
Fixed seats (fastened to floor)	60[c]	
36. Stairs and exits		Note f
One- and two-family dwellings	40	
All other	100	
37. Storage warehouses (shall be designed for heavier loads if required for anticipated storage)		
Heavy	250	
Light	125	
38. Stores		
Retail		
First floor	100	1,000
Upper floors	75	1,000
Wholesale, all floors	125	1,000
39. Vehicle barriers	See Section 1607.7.3	
40. Walkways and elevated platforms (other than exitways)	60	—
41. Yards and terraces, pedestrians	100	—
42. [OSHPD 2] Storage racks and wall-hung cabinets	*Total loads [m]*	—

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm^2, 1 square foot = 0.0929 m^2, 1 pound per square foot = 0.0479 kN/m^2, 1 pound = 0.004448 kN, 1 pound per cubic foot = 16 kg/m^3

a. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of Table 1607.1 or the following concentrated loads: (1) for garages restricted to vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of 4.5 inches by 4.5 inches; (2) for mechanical parking structures without slab or deck which are used for storing passenger vehicles only, 2,250 pounds per wheel.

b. The loading applies to stack room floors that support nonmobile, double-faced library bookstacks, subject to the following limitations:
   1. The nominal bookstack unit height shall not exceed 90 inches;
   2. The nominal shelf depth shall not exceed 12 inches for each face; and
   3. Parallel rows of double-faced bookstacks shall be separated by aisles not less than 36 inches wide.

c. Design in accordance with the ICC *Standard on Bleachers, Folding and Telescopic Seating and Grandstands.*

d. Other uniform loads in accordance with an approved method which contains provisions for truck loadings shall also be considered where appropriate.

e. The concentrated wheel load shall be applied on an area of 20 square inches.

f. Minimum concentrated load on stair treads (on area of 4 square inches) is 300 pounds.

g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the increased loads caused by drift buildup or a greater snow design determined by the building official (see Section 1608). For special-purpose roofs, see Section 1607.11.2.2.

h. See Section 1604.8.3 for decks attached to exterior walls.

i. Attics without storage are those where the maximum clear height between the joist and rafter is less than 42 inches, or where there are not two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide, or greater, located within the plane of the truss. For attics without storage, this live load need not be assumed to act concurrently with any other live load requirements.

j. For attics with limited storage and constructed with trusses, this live load need only be applied to those portions of the bottom chord where there are two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide or greater, located within the plane of the truss. The rectangle shall fit between the top of the bottom chord and the bottom of any other truss member, provided that each of the following criteria is met:
   i. The attic area is accessible by a pull-down stairway or framed opening in accordance with Section 1209.2, and
   ii. The truss shall have a bottom chord pitch less than 2:12.
   iii. Bottom chords of trusses shall be designed for the greater of actual imposed dead load or 10 psf, uniformly distributed over the entire span.

k. Attic spaces served by a fixed stair shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.

l. Roofs used for other special purposes shall be designed for appropriate loads as approved by the building official.

m. [OSHPD 2] The minimum vertical design live load shall be as follows:

Paper media:
12-inch-deep shelf — 33 pounds per lineal foot
15-inch-deep shelf — 41 pounds per lineal foot, or
33 pounds per cubic foot per total volume of the rack or cabinet, whichever is less,
Film media:
18-inch-deep shelf — 100 pounds per lineal foot, or
50 pounds per cubic foot per total volume of the rack or cabinet, whichever is less,
Other media:
20 pounds per cubic foot or 20 pounds per square foot, whichever is less but not less than actual loads.

1607.7.3 Vehicle barriers. Vehicle barrier systems for passenger cars shall be designed to resist a single load of 6,000 pounds (26.70 kN) applied horizontally in any direction to the barrier system and shall have anchorage or attachment capable of transmitting this load to the structure. For design of the system, the load shall be assumed to act at a minimum height of 1 foot, 6 inches (457 mm) above the floor or ramp surface on an area not to exceed 1 square foot (305 mm^2), and is not required to be assumed to act concurrently with any handrail or guard loadings specified in the preceding paragraphs of Section 1607.7.1. Garages accommodating trucks and buses shall be designed in accordance with an approved method that contains provision for traffic railings.

1607.8 Impact loads. The live loads specified in Section 1607.3 include allowance for impact conditions. Provisions shall be made in the structural design for uses and loads that involve unusual vibration and impact forces.

1607.8.1 Elevators. Elevator loads shall be increased by 100 percent for impact and the structural supports shall be designed within the limits of deflection prescribed by ASME A17.1.

2303.2.2.2 Lumber. For each species of wood that is treated, the effects of the treatment, the method of redrying after treatment and exposure to high temperatures and high humidities on the allowable design properties of fire-retardant-treated lumber shall be determined in accordance with ASTM D 5664. The test data developed by ASTM D 5664 shall be used to develop modification factors for use at or near room temperature and at elevated temperatures and humidity in accordance with ASTM D 6841. Each manufacturer shall publish the modification factors for service at temperatures of not less than 80°F (27°C) and for roof framing. The roof framing modification factors shall take into consideration the climatological location.

2303.2.3 Exposure to weather, damp or wet locations. Where fire-retardant-treated wood is exposed to weather, or damp or wet locations, it shall be identified as "Exterior" to indicate there is no increase in the listed flame spread index as defined in Section 2303.2 when subjected to ASTM D 2898.

2303.2.4 Interior applications. Interior fire-retardant-treated wood shall have moisture content of not over 28 percent when tested in accordance with ASTM D 3201 procedures at 92-percent relative humidity. Interior fire-retardant-treated wood shall be tested in accordance with Section 2303.2.2.1 or 2303.2.2.2. Interior fire-retardant-treated wood designated as Type A shall be tested in accordance with the provisions of this section.

2303.2.5 Moisture content. Fire-retardant-treated wood shall be dried to a moisture content of 19 percent or less for lumber and 15 percent or less for wood structural panels before use. For wood kiln dried after treatment (KDAT), the kiln temperatures shall not exceed those used in kiln drying the lumber and plywood submitted for the tests described in Section 2303.2.2.1 for plywood and 2303.2.2.2 for lumber.

2303.2.6 Type I and II construction applications. See Section 603.1 for limitations on the use of fire-retardant-treated wood in buildings of Type I or II construction.

2303.3 Hardwood and plywood. Hardwood and decorative plywood shall be manufactured and identified as required in HPVA HP-1.

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

2303.4.1.2 Truss design drawings. The written, graphic and pictorial depiction of each individual truss shall be provided to the building official and approved 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 joints;
3. Required bearing widths;
4. Design loads as applicable;
5. Top chord live load (including snow loads);
6. Top chord dead load;
7. Bottom chord live load;
8. Bottom chord dead load;
9. Concentrated loads and their points of application as applicable;
10. Controlling wind and earthquake loads as applicable;
11. Adjustments to lumber and metal connector plate design value for conditions of use;
12. Each reaction force and direction;
13. Metal connector plate type, size, thickness or gage, and the dimensioned location of each metal connector plate except where symmetrically located relative to the joint interface;
14. Lumber size, species and grade for each member;
15. Connection requirements for:
    - 15.1. Truss to truss;
    - 15.2. Truss ply to ply; and
    - 15.3. Field splices.
16. Calculated deflection ratio and maximum vertical and horizontal deflection for live and total load as applicable;
17. Maximum axial tensile and compression forces in the truss members; and
18. Required permanent individual truss member bracing and method per Section 2303.4.1.5, unless a specific truss member permanent bracing plan for the roof or floor structural system is provided by a registered design professional.

Where required by one of the following, each individual truss design drawing shall bear the seal and signature of the truss designer:

1. Registered design professional; or
2. Building official; or
3. Statutes of the jurisdiction in which the project is to be constructed.

Exceptions:

1. When a cover sheet/truss index sheet combined into a single cover sheet is attached to the set of truss design drawings for the project, the single sheet/truss index sheet is the only document that needs to be signed and sealed within the truss submittal package.

2. When a cover sheet and a truss index sheet are separately provided and attached to the set of truss design drawings for the project, both the cover sheet and the truss index sheet are the only documents that need to be signed and sealed within the truss submittal package.
3. *Exceptions 1 and 2 are not permitted by DSA-SS and OSHPD 1, 2 and 4.*

2303.4.1.3 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.

2303.4.1.4 Truss submittal package. The truss submittal package shall consist of each individual truss design drawing, the truss placement diagram for the project, the truss member permanent bracing specification and, as applicable, the cover sheet/truss index sheet.

2303.4.1.5 Truss member permanent bracing. Where permanent bracing 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 can be resisted internally by the structure (e.g. buckling member T-bracing, L-bracing, etc.) of the individual truss. The truss individual member buckling reinforcement shall be installed as shown on the truss design drawing or on supplemental truss member buckling reinforcement diagrams provided by the truss designer.
2. Permanent bracing shall be installed using standard industry bracing details that conform with generally accepted engineering practice. Individual truss member continuous lateral bracing location(s) shall be shown on the truss design drawing.

2303.4.1.6 Anchorage. All transfer of loads and anchorage of each truss to the supporting structure is the responsibility of the registered design professional.

2303.4.1.7 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.

2303.4.2 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 with Section 1704.6 as applicable.

2303.4.3 Addtional requirements. [DSA-SS & OSHPD 1, 2 and 4] *In addition to Sections 2304.1 and 2304.2, the following requirements apply:*

1. ***Construction Documents.*** *The construction documents prepared by the registered engineer or licensed architect for the project shall indicate all requirements for the truss design, including:*
   - *1.1. Truss profiles and layout, including girder truss locations.*
   - *1.2. Design loads, support reactions, uplift or lateral connection forces, and deflection criteria.*
   - *1.3. Connection details to structural and nonstructural elements (e.g. nonbearing partitions).*
   - *1.4. Bridging and bracing attachments to supporting structural elements.*
   - *1.5. Wood species and minimum grade (refer to Section 2304.11.3, Tables 2306.3.1 and 2306.3.2 Note a, and AF&PA SDPWS Tables 4.2A and 4.2B, Note 2).*
   - *1.6. For metal plate connected wood trusses, also refer to ANSI/TPI 1, Section 2.2.*
2. ***Truss Design Drawings.*** *Each truss design drawing shall bear the signature and stamp or seal of the registered engineer or licensed architect responsible for the truss design.*
3. ***Requirements for Approval.*** *The truss design drawings and engineering analysis shall be provided to the enforcement agency and approved prior to truss fabrication, in accordance with C.C.R., Title 24, Part 1. Alterations to the approved truss design drawings or manufactured trusses are subject to the approval of the enforcement agency.*
4. ***Special Inspection During Truss Manufacture.*** *Refer to Section 1704A.6.2 for special inspection requirements during the manufacture of open-web trusses.*

   Exception: [OSHPD 2] *Special inspection shall be per Chapter 17 instead of Chapter 17A.*

2303.5 Test standard for joist hangers and connectors. For the required test standards for joist hangers and connectors, see Section 1715.1.

2303.6 Nails and staples. Nails and staples shall conform to requirements of ASTM F 1667. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as follows: 80 kips per square inch (ksi) (551 MPa) for shank diameters larger than 0.177 inch (4.50 mm) but not larger than 0.254 inch (6.45 mm), 90 ksi (620 MPa) for shank diameters larger than 0.142 inch (3.61 mm) but not

TABLE 2308.10.1
REQUIRED RATING OF APPROVED UPLIFT CONNECTORS (pounds)[a,b,c,e,f,g,h]

BASIC WIND SPEED (3-second gust)	ROOF SPAN (feet)							OVERHANGS (pounds/foot)[d]
	12	20	24	28	32	36	40	
85	-72	-120	-145	-169	-193	-217	-241	-38.55
90	-91	-151	-181	-212	-242	-272	-302	-43.22
100	-131	-281	-262	-305	-349	-393	-436	-53.36
110	-175	-292	-351	-409	-467	-526	-584	-64.56

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 1.61 km/h; 1 pound = 0.454 Kg, 1 pound/foot = 14.5939 N/m.

a. The uplift connection requirements are based on a 30-foot mean roof height located in Exposure B. For Exposure C or D and for other mean roof heights, multiply the above loads by the adjustment coefficients below.

EXPOSURE	Mean Roof Height (feet)									
	15	20	25	30	35	40	45	50	55	60
B	1.00	1.00	1.00	1.00	1.05	1.09	1.12	1.16	1.19	1.22
C	1.21	1.29	1.35	1.40	1.45	1.49	1.53	1.56	1.59	1.62
D	1.47	1.55	1.61	1.66	1.70	1.74	1.78	1.81	1.84	1.87

b. The uplift connection requirements are based on the framing being spaced 24 inches on center. Multiply by 0.67 for framing spaced 16 inches on center and multiply by 0.5 for framing spaced 12 inches on center.

c. The uplift connection requirements include an allowance for 10 pounds of dead load.

d. The uplift connection requirements do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also based on framing spaced 24 inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.

e. The uplift connection requirements are based upon wind loading on end zones as defined in Figure 6-2 of ASCE 7. Connection loads for connections located a distance of 20 percent of the least horizontal dimension of the building from the corner of the building are permitted to be reduced by multiplying the table connection value by 0.7 and multiplying the overhang load by 0.8.

f. For wall-to-wall and wall-to-foundation connections, the capacity of the uplift connector is permitted to be reduced by 100 pounds for each full wall above. (For example, if a 500-pound rated connector is used on the roof framing, a 400-pound rated connector is permitted at the next floor level down.)

g. Interpolation is permitted for intermediate values of basic wind speeds and roof spans.

h. The rated capacity of approved tie-down devices is permitted to include up to a 60-percent increase for wind effects where allowed by material specifications.