

# IRC Wall Bracing Training

(Overview of available topics)

## Why Wall Bracing Training?

Because of the many changes in the IRC wall bracing provisions, code jurisdictions across the nation have asked APA to develop training presentations on understanding all aspects of IRC bracing. APA customizes these seminars to the audience's interests, previous knowledge, and current level of wall bracing enforcement. The presentations cover some or all of the information outlined below and will be adjusted to match local wind speed and seismic design category requirements.

## Session Length

The primary training objective is to ensure building departments are well versed in the inspection and enforcement of wall bracing. The shortest time allotment available is 45 minutes. Shorter presentations typically focus on "problem areas", such as how the IRC handles bracing narrow walls, but additional follow-up training may be necessary for short presentations. Seminars can also be scheduled for a duration of two, four, or seven hours.

## Timeframe

APA will make every effort to cover your seminar needs in a timely fashion. APA representatives cover most metropolitan areas in the U.S. and evaluate each seminar request individually based on their availability, seminar location, and the size of the expected audience.

## Materials

Seminars will include a variety of APA publications and technical literature, including materials designed to introduce basic bracing concepts in the code and publications that cover the nuances of wall bracing. Advanced seminars will also include several single-family floor plan examples to be jointly examined by the participants and the instructor in order to apply wall bracing concepts in a "real world" context.

## Content

The presentation will include all or some of the following segments (depending on the participants' level of expertise and the time allotted). Specific content can be discussed between the sponsoring organization and the APA presenter.

### Section I

What's all the Fuss about Wall Bracing?

Why is bracing in the Code?

Vertical load path

Lateral loads

What has changed?

Homes built 30 years ago vs. today's homes

A Brief History of Wall Bracing

(Evolving code provides more solutions and greater flexibility for builders/designers)

Uniform Building Code

National Building Code

Standard Building Code

CABO 1 and 2 Family Dwelling

1992 CABO

1995 CABO

2000 IRC

Much more – four pages

Eight Braced Methods

Continuous Sheathing Method (R602.10.5)

2003 IRC – Even more options

Six pages on wall bracing

2004 Supplement to IRC

6:1 Aspect ratio bracing segments

2006 IRC

More changes expected (list available after Final Action Hearings are complete)

## Section II

Prescriptive Wall Bracing vs. Designed Shear Walls

R301.1 What is meant by *Complete Load Path*?

R301.1.3 Design of portions – What kicks the designer to the IBC?

Limitations of IRC

Wind Speeds less than 110 m.p.h.

Story Heights

R301.3 exception for 12' wall heights

Seismic limitations

R301.2.2 SDC C exception

R301.2.2.4 (SDC D1 and D2)

## Section III

Identifying Braced Wall Lines and Braced Wall Panels

(R602.10 “All exterior walls shall be braced. . .”)

Definitions from R202

Braced Wall

Braced Wall Panel

Braced Wall Lines

R602.10.1 – Offsets up to 4 feet in individual braced wall lines are allowed, with the total offset not to exceed 8 feet. R602.10.1.1 – Spacing of Braced Wall Lines shall not exceed 35 feet.

Exceptions

Braced Wall Panels

R602.10.4

Eight braced Wall Panel Construction Methods

Nailing patterns

Limitations of each

Length Of Braced Panels

Table 602.10.1

“% bracing” concept

Self adjusting for story height, wind speed, seismic

Difference between braced panel width and % bracing required

Blocking of braced wall panel joints

## Method 3 exception – R602.10.7

### Section IV

#### Narrow Wall Bracing

The eight prescriptive methods were first part of the 1970 UBC and have been mostly unchanged since. In the last fifteen years, different narrow wall bracing solutions have been developed.

#### Alternate Braced Wall Panels

IRC R602.10.6 – 32” braced wall panels

Limitations/requirements

Tie downs, continuous foundation, etc.

#### Continuous Structural Panel Sheathing Method

R602.10.5 – (4:1 aspect ratio walls)

Limitations/requirements

Corner detail, etc.

Reduction of % bracing requirements possible

How to inspect houses using this method

2004 Supplement to the IRC – (6:1 aspect ratio walls)

Limitations and uses

### Section V

Review content and overview resources available