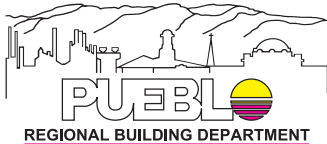


# PRBD CHAT



## CODE CHANGES – Exterior Wall Bracing

This month we will continue our discussion on residential exterior wall bracing requirements. This discussion will be from Chapter 6 of the International Residential Code.

**Holidays in the Next Quarter:**

Martin Luther King Day	January 17, 2011
Valentine's Day	February 14, 2011
Presidents' Day	February 21, 2011
Daylight Saving Begins	March 13, 2011
St. Patrick's Day	March 17, 2011
Spring Begins	March 20, 2011

MARK YOUR CALENDARS FOR THESE HOLIDAYS COMING UP!

One of the tables we consistently use as inspectors is Table R602.10.2(1), it helps us determine the minimum amount of wall bracing needed based on the actual length of that particular wall. The section of that table we refer to is the <90 (mph), which refers to the wind design speed in Pueblo County. Simply based on the number of stories, the length of wall to be brace, and the type of bracing material you are using, this table will tell you the "minimum total length (feet) of braced wall panels required along each braced wall line". Example: 1 story house, wall length of 20 feet, using wood structural panel (WSP), the minimum total length of bracing is 4 feet (4.0). Of course, as with many of the codes requirements, there are exceptions and/or conditions to this rule...read the small print notes (a,b,c,d,e,f and I) for additional requirements.

Another table that we consistently use is Table R602.10.2 Intermittent Bracing Methods. As you study this table, you will see that the majority of bracing materials and methods require stud spacing of 16" on center. In fact, the only bracing method that does not require stud spacing 16"o.c., is the Wood Structural Panel method. Again, the code will refer you to Tables R602.3(3) and R602.3(1) for additional requirements.

**SPECIAL POINTS OF INTEREST:**

- Code Changes
- Pueblo Workshop Information
- Electrical
- Mechanical
- Plumbing
- 

Next I need to touch on the subject of deck building. You will find these requirements in Chapter 5 section R502.2.2 Decks. The code reads as following:  
Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.5 acting on the cantilevered portion of the deck.



Dave Vaughn, Building Official

Deck ledger connection to band joist.  
For decks supporting a total design load of 50 pounds per square foot, 40 pounds per square foot live load plus 10 pounds per square foot dead load. The connection between a deck ledger of pressure-preservative-treated Southern Pine, incised pressure-preservative-treated Hem-Fir or approved decay-resistant species, and a 2-inch nominal lumber band joist bearing on a sill plate or wall plate shall be constructed with 1/2-inch lag screws or bolts with washers in accordance with Table R502.2.2.1. Lag screws, bolts and washers shall be hot-dipped galvanized or stainless steel.

Now available at the front counter and online at [www.prbd.com](http://www.prbd.com) are "How Are We Doing Customer Survey" forms and "The Customer Complaint" forms for anyone wishing to file a complaint or evaluate the Department's customer service. These forms can be mailed, dropped off or e-mail to Dave at [dvaughn@prbd.com](mailto:dvaughn@prbd.com).

Placement of lag screws or bolts in deck ledgers.  
The lag screws or bolts shall be placed 2 inches in from the bottom or top of the deck ledgers and between 2 and 5 inches in from the ends. The lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger.  
Alternate deck ledger connections.

Deck ledger connections not conforming to Table R502.2.2.1 shall be designed in accordance with accepted engineering practice. Girders supporting deck joists shall not be supported on deck ledgers or band joists. Deck ledgers shall not be supported on stone or masonry veneer.

Business and Industry Workforce Training

UPCOMING CLASSES

Public Training Events

**Hand Signals for Cranes and Hoists**  
(4 hours)

February 9, 2011 (Wednesday)  
7:30 am – 11:30 am  
Cost: \$85/person

This class helps participants to discover general safety rules for working with cranes and hoists. At completion of the course participants should be able to display and understand operator hand signals

**Introduction to Hydraulics**  
(32 hours)

February 14-March 9, 2011 (Mondays & Wednesdays)  
7:30 am – 11:30 am  
Cost: \$595/person

This is an introduction to the basic concepts of industrial maintenance of hydraulic systems. It will include instruction in theory and application.

**Proper Use of Test Equipment**  
(24 hours)

February 23-March 21, 2011 (Mondays & Wednesdays)  
7:30 am – 10:30 am  
Cost: \$495/person

This course is designed to provide skills in understanding the proper use of test equipment for various industrial applications. An emphasis will be on identifying the various types of test equipment, their strengths, limitations, reading and calibration.

**Calibration**  
(12 hours)

February 22-March 3, 2011 (Tuesdays & Thursdays)  
7:30 am – 10:30 am  
Cost: \$245/person

This course provides participants with a basic understanding of setting instruments to zero and span and using various types of calibrators.

**Advanced Welding**  
(20 hours)

February 24-March 10, 2011 (Mondays & Wednesdays)  
7:30 am – 11:30 am  
Cost: \$695/person

The participants in this course should have considerable experience in welding or have completed the intermediate welding classes. Areas covered here will be related to advanced processes and techniques.

**Fundamentals of Sensors & Transducers**  
(20 hours)

March 4-29, 2011 (Tuesdays, Thursdays & Fridays)  
7:30 am – 11:00 am  
Cost: \$499/person

Upon completion of this course, students should have, relative to various presence, motion, and process control sensors and transducers (function, troubleshooting, adjusting and calibration).

**Mechanical**  
(28 hours)

March 8-29, 2011 (Tuesdays & Thursdays)  
7:30 am – 11:30 am  
Cost: \$575/person

This introductory course provides an overview of lubrication, bearings, couplings, alignment, fasteners and rigging.

**Electricity**  
(16 hours)

February 14-March 9, 2011 (Mondays & Wednesdays)  
7:30 am – 11:30 am  
Cost: \$395/person (Normally \$595/person)

This course teaches electrical terms and basic electricity.

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## MECHANICAL NEWS

### Happy Holidays from the Mechanical Department

-International Residential Code (IRC)-

**G2419.4 Sediment Traps.** Where a sediment trap is not incorporated as part of the appliance, a sediment trap shall be installed downstream of the appliance shutoff valve as close to the inlet of the appliance as practical.

The sediment trap shall be either a tee having a capped nipple of any length installed vertically in the bottom-most opening of the tee or other device approved as an effective sediment trap.

Illuminating appliances, ranges, clothes dryers and outdoor grills need not be so equipped.

- Merry Christmas, Terry Nothaft -

## DEEP THOUGHTS FROM THE PLUMBING DEPARTMENT

Happy New Year! As always this is a great time for some procedural reminders. First and foremost, remember that permits are to be pulled prior to starting the work. If you have any doubt that a permit is required just give us a call. Plumbers let's be sure that all the necessary tests are on, and holding, before you call for inspection. We understand that situations arise where standard testing of systems is not possible, please call the office to talk about these instances before we come out for the inspection. Vent caps need to be removed before we can do final inspections. Backflow preventer installations do require permits. Also, some form of thermal expansion is necessary for each installation. Pressure reducing valves may also be required.

We will do everything in our power to help you excavators get your jobs backfilled each day to avoid leaving open holes and/or ditches overnight, all we ask is that you call the appropriate inspector between 7:30-8:30 of that day to give him an approximate completion time.

These are just a few minor issues that seem to be cropping up more and more. Keep up the good work out there and we look forward to a great year.

- Dan Daniels -

## Exterior Wall Bracing – Continued

Deck lateral load connection.

The lateral load connection required by Section R502.2.2 shall be permitted to be in accordance with Figure R502.2.2.3. Hold-down tension devices shall be installed in not less than two locations per deck, and each device shall have an allowable stress design capacity of not less than 1500 pounds.

One additional item dealing with deck construction is when treated lumber is required. These requirements can be found in Chapter 3 section R317.1, the code reads as follows:

R317.1 Location required: Protection of wood and wood based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA U1.

1. Wood joists or the bottom of a wood structural floor when closer than 18 inches or wood girders when closer than 12 inches to the exposed ground in crawl spaces on unexcavated area located within the periphery of the building foundation.
2. All wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from the exposed ground.
3. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.
4. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch on tops, sides and ends.
5. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches from the ground or less than 2 inches measured vertically from concrete steps, porch slabs, patio slabs, and similar horizontal surfaces exposed to the weather.
6. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
7. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members.

R317.1.2 Ground contact.

All wood in contact with the ground, embedded in concrete in direct contact with the ground or embedded in concrete exposed to the weather that supports permanent structures intended for human occupancy shall be approved pressure-preservative-treated wood suitable for ground contact use, except untreated wood may be used where entirely below groundwater level or continuously submerged in fresh water.

R317.1.4 Wood columns.

Wood columns shall be approved wood of natural decay resistance or approved pressure preservative-treated wood.

Exceptions: 1. Columns exposed to the weather or in basements when supported by concrete piers or metal pedestals projecting 1 inch above a concrete floor or 6 inches above exposed earth and the earth is covered by an approved impervious moisture barrier.

2. Columns in enclosed crawl spaces or unexcavated areas located within the periphery of the building when supported by a concrete pier or metal pedestal at a height more than 8 inches from exposed earth and the earth is covered by an impervious moisture barrier.

- Charlie Carty, Senior Building Inspector -

# ELECTRICAL NEWS

Hello to everyone and Happy Holidays

I would like to review the requirements for EMT fittings installed in damp or wet locations, Specifically Article 358.42 of the 2008 National Electrical Code, Couplings and Connectors. This article and section of the code is as follows:

"Couplings and connectors used with EMT shall be made up tight. Where buried in masonry or concrete, they shall be concrete tight type. Where installed in wet locations, they shall comply with 314.15. "

That stated we must now look at Article 314.15 as referred to in the above code reference. Article 314.15 Damp or Wet Locations reads:

"In damp or wet locations, boxes, conduit bodies, and fittings shall be placed or equipped so as to prevent moisture from entering or accumulating within the box, conduit body, or fitting. **Boxes, conduit bodies, and fittings installed in wet locations shall be listed for use in wet locations.**"

FPN No. 1: For boxes in floors, see 314.27(C).

FPN No. 2: For protection against corrosion, see 300.6.

I have highlighted the last sentence in this code reference, as these are the defining words which can make and inspection pass or fail. The UL listing for Electrical Metallic Tubing Fittings is under the category (FKAV). Let's look at the UL labeling for EMT fittings under the heading of Product Markings:

"Fittings suitable for use in poured concrete or where exposed to rain are so indicated on the device or carton. The term "rain tight," "wet location" or the equivalent on the carton indicates suitability for use where directly exposed to rain. The term "concrete tight" or equivalent on the carton indicates suitability for use in poured concrete. Fittings have been tested for use only with steel tubing unless marked on the device or carton to indicate suitability for use with aluminum or other material."

We also need to pay attention to the UL labeling for EMT fittings under the heading of Carton Marking:

A fitting that is taped completely from (from the raceway to the box or raceway to raceway) is concrete-tight when the product carton is marked "CONCRETE-TIGHT WHEN TAPED."

Now that we have reviewed the code articles and UL references for Electrical Metallic Tubing fittings, we need to pay attention to the installation of EMT fitting in damp and wet locations, to be sure that the products that we have purchased from the suppliers, put in the trucks or vans, are suitable for use in damp and wet locations, or more commonly outdoor installations. Check the box that the fittings are packaged for the proper UL listing and labeling. Some Manufactures are making fitting that are "raintight" or "wet location" rated with an Identifiable mark on each fitting. If an inspector cannot find an identifiable mark on a fitting, you may be asked to provide the proper documentation as proof that the fittings are UL listed for damp or wet locations. As we all know EMT fittings that have been used in the past, that were of the compression type were in most cases assumed to be suitable for use in damp and wet locations and may have been listed for that use. Today there is a Listing and labeling dilemma, is it "Concrete tight", "Raintight" or "Wet location" Rated?

From all of us at Pueblo Regional Building Dept,  
Happy Holidays,  
Aaron Bartolo  
Senior Electrical Inspector

## ST. VALENTINE'S DAY

Pueblo Regional Building Dept.  
316 W. 15th Street  
Pueblo, CO 81003



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Email: prbd@prbd.com

Saint Valentine's Day (commonly shortened to Valentine's Day) is annual commemoration held on February 14 celebrating love and affection between intimate companions. The day is named after on or more early Christian martyrs named Valentine and was established by Pope Gelasius I in 500 AD. It was deleted from the Roman calendar of saints in 1969 by Pope Paul VI, but its religious observance is still permitted. It is traditionally a day on which lovers express their love for each other by presenting flowers, offering confectionery, and sending greeting cards (known as "valentines"). The day first became associated with romantic love in the circle of Geoffrey Chaucer in the High Middle Ages, when the tradition of courtly love flourished.

Modern Valentine's Day symbols include the heart-shaped outline, doves, and the figure of the winged Cupid. Since the 19th century, handwritten valentines have largely given way to mass-produced greeting cards.

### Historical facts:

Numerous early Christian martyrs were named Valentine. The Valentines honored on February 14 are Valentine of Rome (*Valentinus presb.m.Romae*) and Valentine of Terni (*Valentinus ep. Interamnesis m. Romae*). Valentine of Rome was a priest in Rome who was martyred about AD 269 and was buried on the Via Flaminia. His relics are at the Church of Saint Praxed in Rome, and at Whitefriar Street Carmelite Church in Dublin, Ireland. Valentine of Terni became bishop of Interamna (modern Terni) about AD 197 and is said to have been martyred during the persecution under Emperor Aurelian. He is also buried on the Via Flaminia, but in a different location than Valentine of Rome. His relics are at the Basilica of Saint Valentine in Terni (*Basilica di San Valentino*).

The *Catholic Encyclopedia* also speaks of a third saint named Valentine who was mentioned in early martyrologies under date of February 14. He was martyred in Africa with a number of companions, but nothing more is known about him.

No romantic elements are present in the original early medieval biographies of either of these martyrs. By the time a Saint Valentine became linked to romance in the 14th century, distinctions between Valentin of Rome and Valentine of Terni were utterly lost.

In the 1969 revision of the Roman Catholic Calendar of Saints, the feast day of Saint Valentin on February 14 was removed from the General Roman Calendar and relegated to particular (local or even national) calendars for the following reason: "Though the memorial of Saint Valentine is ancient, it is left to particular calendars, since, apart from his name, nothing is known of Saint Valentine except that he was buried on the Via Flaminia on February 14." The feast day is still celebrated in Balzan (Malta) where relics of the saint are claimed to be found, and also throughout the world by Traditionalist Catholics who follow the older, pre-Second Vatican Council calendar.

- internet -



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