

CODE LINK

STATE OF OREGON • BUILDING CODES DIVISION

SUMMER 2005

Online services improve customer service

By Mark Long, administrator



When people think of government, “customer service” is not likely to be the first thing that comes to mind. It’s more likely that they’re thinking of regulation, long lines, and the check that wasn’t in the mail.

At Building Codes, we are working to change that impression among our customers and stakeholders. Our goal is to streamline regulations and to provide easy access to services. We are looking for ways to use technology to improve our services, to make regulating easier, and to make regulation less onerous for citizens.

During the past quarter, we inaugurated two new online systems, [Licensing Online](#) and [BuildingPermits.Oregon.gov](#) to provide easy access to services.

Licensing online is a multi-phased project that will eventually allow almost all licensees to apply for and renew licenses online. The new computer system that makes this possible shrinks the normal two-week renewal period by at least half. The system is currently available to journeyman plumbers, electrical contractors, and supervising electricians. Sometime this fall, we hope to add the remaining electrical-trades licenses. We hope to have all our 83 licensing and certification categories on the system by the end of this year.

Online services, reminders for electrical licensees	2
State launches e-permitting portal BuildingPermits.Oregon.gov	3
Thermal mass — not to be confused with insulation	4
BCD issues interpretations	6
Titling and registration of manufactured homes moves from DMV to Building Codes Division	9
Link up with Tri-County Service Center newsletters!	10
Errata issued for ORSC	11
The electrical inspector’s quick code-reference guide to the new codes.....	12
Compliance report	15
BCD board meeting dates	19
Tri-County code forum dates.....	19
Confirmation of executive appointments ...	20

Online services, reminders for electrical licensees



By fall, all electrical licensees will be able to renew their licenses online. The division's online application and renewal service, located on the Web at Licensesonline.dcbsoregon.gov/MyLicense, is fast, easy, and secure. In renewal notices, licensees receive a PIN (personal identification number) to access online services.

Continuing education reminder:

To be eligible to renew a license, licensees must complete all continuing-education courses by October 1, 2005.

Limited Journeyman Manufacturing Plant (PJ)
Limited Maintenance Electrician (LME)
Limited Maintenance Manufactured Structures (LMM)

Licensees need to complete 24 hours of continuing education by October 1 to be eligible to renew. Eight of the 24 hours must be code-change classes. Renewal fee is \$100 for a three-year license. Classes must be completed and the renewal fee must be received by October 1, 2005. Renewal fees double after October 1 (\$200).

Limited Energy Class A (LEA)
Limited Energy Class B (LEB)

Licensees need to complete 24 hours of continuing education by October 1 to be eligible to renew. Eight of the 24 hours must

be code-change classes. Renewal fee is \$50 for a three-year license. Classes must be completed and renewal fee must be received by October 1, 2005. Renewal fees double after October 1 (\$100).

Limited Journeyman Sign (SIG)
Limited Journeyman Stage (ST)
Limited Building Maintenance (BME)
Limited Renewable Energy Technician (LRT)

Licensees need to complete four hours of code-change continuing education by October 1, 2005, to be eligible to renew. Renewal fee is \$50 for a three-year license. Classes must be completed and renewal fee must be received by October 1, 2005. Renewal fees double after October 1 (\$100).

Alert! The following licenses, representing roughly 8,500 licensees, will expire October 1, 2005:

Limited Journeyman Manufacturing Plant (PJ)
Limited Energy Class A (LEA)
Limited Energy Class B (LEB)
Limited Maintenance Electrician (LME)
Limited Building Maintenance (BME)
Limited Renewable Energy Technician (LRT)
Limited Journeyman Sign (SIG)
Limited Journeyman Stage (ST)
Limited Maintenance Manufactured Structures (LMM) ■

Online services improve customer service, continued

On May 25, BCD unveiled the latest version of the state's e-permitting portal, BuildingPermits.Oregon.gov, to a crowd of contractors and local officials. This service is a partnership of state and local government and industry to provide better, faster, and more cost effective services. The portal allows contractors in the Portland area to apply and pay for multiple permits from multiple building departments on one convenient Web site. This system not only

makes it easier for contractors to comply with regulations but also makes it generally easier for them to do business in the state.

E-permitting and online licensing are two ways that we are improving services to our customers. By cutting bureaucratic red tape; creating easy-to-use systems; and reducing transaction time for license application, renewals, and permitting, we are working to let industry know that customer service is our priority. ■

State launches e-permitting portal BuildingPermits.Oregon.gov



Attention contractors! You can now apply and pay for simple over-the-counter electrical, plumbing and mechanical permits for six jurisdictions in the Portland tri-county region through one Internet portal: BuildingPermits.Oregon.gov

State officials unveiled the new one-stop e-permitting portal at a news conference May 25. BCD hosts the site, which is a collaborative effort of BCD and the cities of Hillsboro, Portland, Milwaukie, and Beaverton and Clackamas and Washington counties. BuildingPermits.Oregon.gov is one of only two such one-stop permitting sites in the nation.

“E-permitting is an important facet of the regulatory streamlining initiative and shows our commitment to industry to make Oregon more business-friendly,” said the governor’s chief of staff, Teresa McHugh, at the news event.

Mark Long, BCD administrator, added, “BuildingPermits.Oregon.gov is a partnership of state and local government and industry, and is a great example of how we can work together to streamline the regulatory process while delivering better customer service.

Jim Ferris, president of a Portland-based electrical contracting company, Red’s Electric, was the first contractor to use and demonstrate the system at the news conference. He said that it’s encouraging to work with government regulators responsive to the needs of the businessperson.

“The e-permitting portal is easy to use and will save industry money and frustration, and for contractors to do business in the state,” said Ferris.

BuildingPermits.Oregon.gov allows contractors to apply and pay for permits from the jurisdictions of Hillsboro, Portland, Milwaukie, and Beaverton and Clackamas and Washington counties. Using the portal, contractors may:

- Apply and pay for over-the-counter plumbing, mechanical, and electrical permits
- Apply for and purchase minor labels (permits for minor electrical plumbing and electrical installations that can be used anywhere in the state)
- Obtain information about purchasing electrical, plumbing, and mechanical permits in the pilot jurisdictions
- Locate the correct building department for a project by entering an address in the “Address Locator”
- Link to permit forms and contact information in the pilot jurisdictions

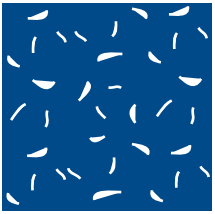
E-permitting means less frustration for contractors trying to determine which building department is responsible for issuing a permit. It also offers the convenience of getting permits from home, the office, or the jobsite at any time.

BuildingPermits.Oregon.gov is the culmination of a pilot project. There are plans to expand the site and include more area building departments as partners, eventually adding permitting for all building departments statewide. Later, plan review and other features will be added.

“Oregon’s cities are looking forward to continuing our work with the state to improve building department services for industry,” said Dave Barenberg from the League of Oregon Cities. “By removing barriers, red tape, and extra costs to Oregon’s industry, we can help speed the economic recovery of Oregon.” ■

Thermal mass — not to be confused with insulation

By Charlie Stephens and Alan Seymour, Oregon Department of Energy



Oregon has seen a steady rise in the number of products and building systems used for constructing the walls of a home. The growing interest in energy efficiency and more sustainable building methods is behind much of this new market activity. Double stud or Larson Truss walls, structural insulated panels (SIPs), insulated concrete forms (ICFs) and a number of natural building materials such as straw bale or straw clay challenge traditional stud-wall construction for market share.

They are challenging to consumers and building code officials trying to assess the energy performance of such assemblies. This is especially true of ICF systems, when a wall's thermal mass may have some impact on the overall energy performance and comfort of the home. Manufacturer claims about product performance can confuse those interested in code compliance or a higher-performance building shell.

Code compliance issues

Masonry walls (and floors) are denser than their light-framed cousins. For this reason, care must be taken in characterizing the thermal performance of these elements of the building envelope. For the purposes of energy code compliance, the relevant thermal performance metric is conductive heat loss, represented by the whole-wall U-value. Its units are $\text{Btu/hr}\cdot\text{ft}^2\cdot^\circ\text{F}$ and it is the inverse of whole-wall steady-state R-value, which is used as a shorthand way to describe the thermal performance of a number of building components or assemblies. Unfortunately, the use of "R-value" is not always consistent.

The energy code, by regulating U-value, indirectly regulates *whole-wall steady-state* R-value. This is *not* the same as *dynamic* or *equivalent* R-value, which usually takes into account the thermal mass or heat-storage

effects of a building assembly. Neither is it the same as the R-value of the insulation that provides most of the thermal resistance of the assembly. A standard-framed 2x6 wood stud wall insulated with 5¹/₂-inch medium-density fiberglass batts is often referred to as an R-21 wall. As used here, the R-value is for the fiberglass batts only. The whole-wall, steady-state R-value of this very typical wall assembly (assuming a 23 percent framing factor) is R-16.7, a U-value of 0.060 $\text{Btu/hr}\cdot\text{ft}^2\cdot^\circ\text{F}$. This includes the R-values of an assumed set of finish materials on the inside and outside of the wall and the inside and outside air-film coefficients.

Some concrete-based wall assemblies can meet or exceed this level of performance. Others do not. But in all cases, the proper base of comparison is the whole-wall U-value, or inversely, the whole-wall steady-state R-value. Concrete itself has a very low resistance to heat loss or R-value. It varies, depending on the density of the concrete and the aggregate material, but a default value of R-0.14 per inch is a reasonable default value for 3,000-psi concrete. This means that ICF systems have to rely on the R-value of the form material, which is most often, but not always, styrofoam or EPS. The whole-wall steady-state R-value for these assemblies varies by the thickness of the form walls, the thickness of the concrete, the configuration of the form, the material and size of any form ties that connect the outer and inner form walls, and the thermal properties of the materials used to finish the inside and outside of the wall.

Most often, the whole-wall performance of these systems is tested in a "guarded hot-box" test chamber and published as part of the specifications for the form product. While the dynamic R-value can be determined using

a different test procedure, for Oregon Energy Code purposes, this metric is not relevant. ODOE maintains a list of tested whole-wall U-values for some ICF systems. These are products that have been tested and for which data has been made available.

Climate

While it is often useful to account for the thermal mass, or thermal capacitance, of a building assembly, in Oregon's climate, the heat loss for a building during the heating season is determined by the whole-wall U-value. In order for an assembly's thermal capacitance to be of any benefit in slowing heat loss, diurnal (daily) outdoor temperatures must be above indoor temperatures for part of the day and below indoor temperatures for another part of the day (typically nighttime). During our heating season, these conditions are often found in the desert southwest; they are almost never found in Oregon.

During the cooling season, there are times when diurnal temperature patterns enable some benefit from good thermal capacitance. But because building cooling loads in Oregon are quite small compared to heating loads, code specifications are based on reducing

heat loss in the winter months. Preliminary data from a mass wall assembly being monitored for performance suggest that this is appropriate.

Summary

For code compliance purposes, or for comparing the energy performance of one wall assembly to another with regard to heat loss, be sure you're using the proper metrics. For a wall, this is whole-wall U-value, or its inverse, whole-wall steady-state R-value. For more information on thermal mass and understanding the performance of building assemblies with thermal capacitance, visit ODOE's Web site <http://www.oregon.gov/ENERGY/CONS/Codes/cdpub.shtml>. Go to "Residential Publications," "Residential Code Pamphlets," Insulated Concrete Form Systems, #20, which is a pdf. If you have questions about a specific product's R-value, please contact Charlie Stephens, Alan Seymour, or Christopher Dymond at ODOE, (800) 221-8035 (Oregon only) or (503) 378-4040. E-mails addresses: Charles.M.Stephens@state.or.us
Alan.Seymour@state.or.us
Christopher.S.Dymond@state.or.us ■

BCD issues interpretations



Interpretations issued by the Building Codes Division are binding statewide. Local building jurisdictions are required to follow interpretations as part of the code.

Mechanical

Number: C410 (G2421)

Program: Mechanical (*Oregon Residential Specialty Code*)

Subject: Venting of Fuel-Gas Regulators

Code sections: C410.3 and C403 (G2421 and G2414)

Code edition: 2004 Edition of the *Oregon Mechanical Specialty Code*. (Also applies to 2005 *Oregon Residential Specialty Code*)

References: ORS 479.630(10), OAR 918-309-0100 and OAR 918-309-0100 (8)

Date of issue: April 12, 2005

Question

What materials are allowed to be used for the venting of a line-pressure regulator? Is the use of PVC venting material allowed?

Answer

Only materials listed and approved for use in a fuel-gas system, as listed in Section C403 (G2414), can be used for fuel-gas piping, which includes the venting of line-pressure regulators. Section C403.5 (G2414.6) states plastic pipe, (plastic) tubing and (plastic) fittings can only be used outside underground and shall be listed and labeled to ASTM D2513.

PVC would not be approved for the above-ground venting of a line-pressure regulator in a fuel-gas system.

Electrical

Subject: Master Permit Program

Code edition: 2005 Oregon Electrical Specialty Code
Date of issue: April 1, 2005

Question

Can an industrial facility that has only limited maintenance electricians on staff participate in the Master Electrical Permit Program?

Analysis

Oregon Revised Statute (ORS) 479.630(10) requires that facilities that employ limited maintenance electricians be inspected a minimum of once a year. The Master Electrical Permit Program under Oregon Administrative Rule (OAR) 918-309-0100 allows an owner or operating manager to participate in the program provided they utilize properly licensed electricians. OAR 918-309-0100(8) specifically allows the required yearly inspection of limited maintenance electricians to be combined with the Master Electrical Permit Program provided separate records are maintained.

Answer

Yes, industrial facilities that employ limited maintenance electricians may participate in the Master Electrical Permit Program. The owner or operating manager need to register with the local inspecting jurisdiction, provide names and license numbers of the electrician(s) and ensure separate logs are maintained of the maintenance work performed.

This interpretation does not expand or change the scope of work allowed by a limited maintenance electrician.

Residential

Number: R101.2

Subject: Smoke alarms in residential aircraft hanger

Code sections: Section R101.2 and R313.1

Code edition: 2005 Edition of the *Oregon Residential Specialty Code*

Date of issue: May 18, 2005

Question

To which code are residential aircraft hangars regulated, specifically pertaining to smoke alarms, the *Oregon Residential Specialty Code* or the *Oregon Structural Specialty Code*?

Analysis

The *Oregon Residential Specialty Code (ORSC)*, Section R101.2 (1) (1.1) states “The requirements of Chapter 1 through Chapter 42 and Appendices A through S as adopted in Section R102.5 apply to: Detached one-and two-family dwellings and townhouses classified as Group R-3 and Group U Occupancies as defined in the *Oregon Structural Specialty Code*; and ...”.

The *Oregon Structural Specialty Code (OSSC)* defines a residential aircraft hanger as “An accessory building less than 2,000 square feet and 20 feet in height, constructed on a one- or two-family residential property where aircraft are stored. Such use will be considered as a residential accessory use incidental to a dwelling.”

The *OSSC* classifies a residential aircraft hanger as a Group U Occupancy.

The *ORSC*, Section R313.1 states in part; “... Required smoke alarms shall not be located within kitchens or garages, or other spaces where the temperature can fall below 40°F.”

Answer

A residential aircraft hanger would be considered an accessory or incidental structure to a residential home, similar to any other U occupancy used to store cars, boats and/or motor homes, and is therefore required to be constructed in accordance with the *ORSC*. Smoke alarms must be installed to the minimum specifications outlined in Section R313.1 of the *ORSC*. A residential aircraft hanger, as defined by the *OSSC*, is limited to 2,000 square feet in area and 20 feet in height. The hanger must be used for storage of private vehicles (aircraft) only; refueling, maintenance or repair of aircraft (or motor vehicles) is prohibited.

Structural

Number: 12102

Subject: Use of Epoxy Paint as Surrounding Material

Code section: Oregon Structural Specialty Code (OSSC) Section 1210.2

Code edition: 2004 Edition

Date of issue: May 25, 2005

Question

May epoxy paint be used in satisfying the “smooth, hard, non-absorbent” wall surface requirements of OSSC section 1210.2 where the restroom is accessible to the public?

Answer

Yes. However, this interpretation is limited to public restrooms containing only one water closet. ■

BCD files temporary and permanent rules



Temporary rules

Allow an alternative to Chapter 29 of the 2004 Oregon Structural Specialty Code

Citation: *Temporarily amending OAR 918-460-0015*

Purpose: This temporary rule allows an alternative to Chapter 29 to alleviate unforeseen and unintended consequences relating to plumbing fixture counts that occurred with the adoption of Chapter 29 in the *2004 OSSC*.

Effective dates: April 7, 2005 through September 30, 2005

Allow a phase-in period for the 2005 Oregon Residential Specialty Code

Citation: *Adopts OAR 918-480-0003*

Purpose: This temporary rule mandates that all building departments allow a phase-in period of 90 days to allow the construction industry, contractors, architects, engineers, building officials, and, inspectors an opportunity to become familiar with the new 2005 Oregon Residential Specialty Code. This rule also prohibits building departments from accepting plans that use a combination of these codes during the phase-in period.

Effective dates: April 1, 2005 to June 30, 2005 for the new *2005 Oregon Residential Specialty Code (2005 ORSC)*.

Manufactured structures ownership tracking and dealer licensing

Citation: *Amends OAR 918-001-0036, 918-030-0030 & 918-500-0010 — Adopts OAR 918-030-0400, 918-030-0410, 918-030-0420, 918-030-0430, 918-030-0490, 918-550-0000, 918-550-0005, 918-550-0010, 918-550-0100, 918-550-0120, 918-550-0140, 918-550-0160, 918-550-0180, 918-550-0200 and 918-550-0600*

Purpose: These rules implement Senate Bill 468 passed by the 2003 Legislative Assembly, which transfers the responsibility for maintaining manufactured structures ownership and siting information from the Depart-

ment of Transportation, Driver and Motor Vehicles Division (DMV) to the Department of Consumer and Business Services, Building Codes Division (BCD).

Effective date: May 1, 2005.

Adopt the 2005 Oregon Structural Specialty Code

Citation: *Amends OAR 918-480-0005 and 918-480-0010*

Purpose: These rules adopt the 2005 Oregon Residential Specialty Code (ORSC), which establishes minimum safety standards for the design and construction of residential dwellings. The 2005 ORSC is based on the 2003 International Residential Code with substantial Oregon amendments. (Oregon did not adopt the IRC plumbing chapter (25-32) and electrical chapters (33-42). Instead, the state amended the 2003 Uniform Plumbing code and the 2005 National Electrical Code for inclusion in the ORSC.)

Approximately every three years, the division reviews the current edition of the code and amends it as necessary. The adoption of a statewide residential code helps ensure that construction and inspection standards are predictable and consistent throughout Oregon.

The 2005 ORSC expands the scope of work from the previously adopted One-and Two-Family Dwelling Specialty Code. For example, town- and row-house structures, multifamily dwellings, and certain apartments are now regulated under this new code.

Effective date: April 1, 2005.

Housekeeping rule changes the name of code

Citation: *Adopt OAR 918-001-0006.*

Purpose: This rule changes the title “One-and Two-Family Dwelling Specialty Code” to “Oregon Residential Specialty Code.”

Effective date: April 1, 2005.

Removal of signature authentication requirement for licenses and other programs

Citation: Amends OAR 918-282, 918-400, 918-515-0020, 918-515-0110, 918-515-0415, 918-674-0095, 918-695-0010 & 918-695-0038

Purpose: This rulemaking eliminates the requirement for a notarized signature to authenticate an license applicant's work experience or training. Removing this requirement is key to the implementation of the division's

new electronic licensing system which allows applicants to apply for licenses online.

Effective date: April 1, 2005.

Modify rule checklist and timeline for code change submittals

Citation: Amends OAR 918-008-0030.

Purpose: This rule allows the division to make the code adoption process more flexible and will better meet the needs of customers, stakeholders, and division staff.

Effective date: April 1, 2005 ■

Titling and registration of manufactured homes moves from DMV to Building Codes Division



Oregon consumers who buy, move, or otherwise change the status of a manufactured home or other manufactured structure should no longer go to Driver and Motor Vehicle Services (DMV) at the Department of Transportation to register the structure or secure its title. Instead, buyers of used homes must go to their county assessor's office. The assessor will process the transaction on behalf of the Oregon Department of Consumer & Business Services, Building Codes Division. Buyers of new homes will go through the dealer or a title/escrow company to complete the process. BCD has also been assigned responsibility for the licensing and regulation of manufactured-structures dealers.

These changes reflect legislation passed by the 2003 legislature, which transferred the Manufactured Structures Ownership program from DMV to BCD effective May 1, 2005. The division is already responsible for making sure manufactured structures meet state building codes. DMV will transfer current titles and

registrations to BCD. Individuals who hold those documents do not need to take action unless there are any changes or the structure moves. Dealer licenses will also be transferred, so dealers will receive a renewal notice from BCD when their current license expires.

While the transfer of responsibility occurred May 1, DMV began directing most applicants to the county assessors for processing by April 18. Homeowners and others should contact their local county assessor's office or BCD with questions related to manufactured structures.

Contacts in the county assessor's office are online at www.bcd.oregon.gov/lois/county_index.html. Licensing information is at <http://www.bcd.oregon.gov/lois/index.html>. Questions about BCD's Manufactured Structures Ownership program should be directed to Sherry Mitchell, (503) 373-1309. Dealer licensing questions should be directed to Laurie Skillman, (503) 373-1288. ■

Link up with Tri-County Service Center newsletters!



You can now read the Tri-County Service Center newsletters by clicking on the newsletter icon or its issue date. If you don't have Acrobat Reader, download it from the oregon.gov Web page:

<http://egov.oregon.gov/DAS/fileformats.shtml>



[June-August 2005](#)



[May-July 2005](#)



[June-August 2005](#)



[May-July 2005](#)



[July-September 2005](#)

They're FREE!

To receive the tri-county newsletters by mail, call the Tri-County Service Center, (503) 872-6731, to order your subscription.

Tri-County Service Center

Building Codes Division

123 NE 3rd Ave., Ste. 440, Portland, OR 97232-2901

Phone (503) 872-6731, Fax (503) 872-6735

TTY (503) 373-1358

Manager: Joanie Stevens-Schwenger

E-mail: Joanie.M.Stevens-Schwenger@state.or.us

Web site: www.bcd.oregon.gov

Errata issued for ORSC



As an aid to contractors, inspectors and members of the design community, BCD is adding this errata to Code Link. To keep up with residential code developments, bookmark the [Residential Structures](#) page on BCD's Web site.

2005 Oregon Residential Specialty Code Errata

Strike through denotes deleted language
Underline denotes added language

1. Section R602.10.7 in the **Exception** should read “. . . when constructed in accordance with R602.10.3, Braced-wall-panel method 3 and Table R602.10.3(1), ~~R602.10.1~~ method 3, or where . . .”.
2. Section G2415.14.1 should read “Plastic pipe shall be installed outside underground only. Plastic pipe shall not be used within or under any building or ~~slab~~ building slab or be operated at . . .”.
3. Appendix K is adopted as part of this code, but was inadvertently left out of the printing of the code. See attached copy of Appendix K.
4. Make the following corrections to Appendix G:

AG103.1 In-ground pools. ~~Not adopted by the State of Oregon. In-ground pools shall be designed and constructed in accordance with~~ ANSI/NSPI-5 as listed in Section AG103.1.

Section AG106

Abbreviations

AG106.1 General.

ANSI – American National Standard Institute
25 West 43rd St., New York, NY 10036

ASTM – American Society for Testing and
Materials

1916 Race Street, Philadelphia, PA 19103

NSPI – National Spa and Pool Institute
2111 Eisenhower Ave., Alexandria, VA 22314

Section AG107

Standards

AG107.1 General.

ANSI/NSPI

ANSI/NSPI-5 Standard for Residential In-ground Swimming Pools . . . AG103.1

ASTM

ASTM F 1346-91 Standard Performance Specifications for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs . . . AG105.2, AG105.5

Appendix K

Sound Transmission

Section AK 101

General

AK101.1 General. Wall and floor/ceiling assemblies separating dwelling units shall provide airborne sound insulation for walls, and both airborne- and impact-sound insulation for floor/ceiling assemblies.

Section AK102

Airborne Sound

AK102.1 General. Airborne-sound insulation for wall and floor/ceiling assemblies shall meet a Sound Transmission Class (STC) rating of 45 when tested in accordance with ASTM E 90.

Section AK103

Structural-borne Sound

AK103.1 General. Floor/ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within a structure shall have an Impact Insulation Class (IIC) rating of not less than 45 when tested in accordance with ASTM E 492.

Section AK104

Referenced Standards

ASTM E90-99 Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements . . . AK102

ASTM E 492-90 (1996)e Specification for Laboratory Measurement of Impact Sound Transmission through Floor/ceiling Assemblies Using the Tapping Machine . . . AK103. ■

The electrical inspector's quick code-reference guide to the new codes

Chief electrical inspector John Powell compiled the following references to the 2005 NEC and 2005 Oregon Residential Specialty Code as an aid for inspectors and contractors.

Service and Grounding	2005 NEC	2005 ORSC
Sheet metal screws used for grounding	250.8	E35-250.8
Bonding metal pipe, steel building	250.104	E35-250.104
Bonding raceways and enclosures	250.92, 94, 96	E35-250.92, 94, 96
Connectors installed/required	312.5(C)	E36-312.5(C)
Fitting used as designed/listed	300.15, 110.3(B)	E36-300.15, E34-110.3(B)
Conductor amp. equal load	210.11(B)	E35-210.11(B)
Disconnect/grounding electrodes Each building	225.32, 230.70 250.32	E35-225.32, E35-230.70 E35-250.32
EGC identifier	210.5(B), 250.119	E35-210.5(B)
EGC bar for sub-panel	408.40	E37-408.40
Grounding electrode system	250.50 250.52	E35-250.50, E35-250.52
Isolated neutral sub-panel	250.142	E35-250.142
Listed/Labeled equipment	110.3(B)	E34-110.3(B)
Main/Equip bonding jumper Sized/installed	250.28, 250.102 250.108	E35-250.28, E35-250.102 E35-250.108
Main disconnect	230.70, 71	E35-230.70, E35-230.71
Neutrals identified	200.6, 200.7, 310.12(A)	E35-200.6, E35-200.7 E36-310.12(A)
OCPD/Conductor-ampacity	230.90, 240.3	E35-230.90, E35-240.3
Service equipment and panel board clearances	110.26	E34-110.26
Service-entrance raceway/mast	230.28	E35-230.28
Service-entrance clearances	230.24	E35-230.24
Size of GEC	250.66	E35-250.66
Size of EGC	250.122	E35-250.122
Unused openings	110.12(A), 312.5(A) 314.17(A)	E34.110.12(A), E36-312.5 E36-314.17(A)
Metal well casing	250.52(A)(7), 250-112(M)	E35-250.52(A)(7), E35-50.112(M)
Good connections	110.14	E34-110.14
Remove paint under lugs	110.12(C)	E34-110.12(C)
Installation per listing	110.3(B)	E34-110.3(B)
Max breaker height	404.8	E35-240.24(a) E37-404.8

Service and Feeders	2005 NEC	2005 ORSC
Ampacity of OCPD	240.4,	E35-240.4
Bathroom receptacles	210.52(D)	E35-210.52(D)
Bathroom receptacles, circuits	210.52(D), 210.11(C)(3)	E35-210.52(D), E35-210.11(C)(3)
Arc-fault devices	210.12	E35-210.12
Bond metal boxes	250.148, 314.4	E35-250.148, E36-314.4
Bonding/grounding switches	250.147, 404.9(B)	E35-250.147, E37-404.9
Box fill	314.16	E36-314.16
Closet lights	410.8	E37-410.8
Burial depth outside conductors	300.5	E36-300.5
Fan boxes	314.27(D), 422.18	E36-314.27, E37-422.18
Free conductor in box	300.14	E36-300.14
Hydromassage tub	430.14(a), 110.3(B) 680.70, 680.71	E34.110.3(B), E39-680.70, E39-680.7
Kitchen appliance receptacles/cords	422.16	E37-422.16
Kitchen countertops/receptacles	210.52(B), (C)	E35-210.52(B), (C)
Laundry circuit	210.52(F), 220.52(B)	E35-210.52, E35-220.52
Light switch/stairs	210.70(2)	E35-210.70(2)
Lighting outlets	210.70(A)	E35-210.70(A)
Listed fittings, cables, etc	110.3(B)	E34-110.3(B)
Unused openings	725.7, 800.6 800.50	E40.725.7, E41-800.6 E41-800.50
Number of circuits for loads	210.11(B)	E35-210.11(B)
Sizing feeders	215.2, T310.16	E35-215.2, E36-T310.16
Small appliance calculations	220.52(A)	E35-220.52(A)
Smoke detectors	ORS 479.270-300	2003 IRC, R313.1
Splicing of cables	110.14(B)	E34-110.14(B)
Support and damage of NM cables	334.15, 334.30	E36-334.15, E36-334.30
Wall receptacles in hallway	210.52(H)	E35-210.52(H)
Wall receptacles.	210.52(A)(2)	E35-210.52(A)(2)
Wiring method approved	110.8, 230.43	E34-110.8, E35-230.43
Conduit as support	300.11(B)	E36-300.11(B)
MC cable support	334-10	E36-300.11(B)
Bushings required	300-16(b)	E36-300.16(B)
RMC support	344.30	E36-344.30
EMT support	358.30	E36-358.30
FMC support	348.30	E36-348.30

Final Inspection: Service and Grounding	2005 NEC	2005 ORSC
Back-fed devices	408.36(F)	E37-408.36(F)
Bonding of H ₂ O piping	250.104	E35-250.104
Clearances panel/service equipment	110.26	E34-110.26
Energized service/complete	110.2, 110.7 110.12	E34-110.2, E34-110.7 E34-110.12
GEC/termination accessible approved	250.68, 250-70	E35-250.68, E35-250.70
Identify service-disconnect	110.22, 230.70(B)	E34-110.22, E35-230.70
Panel directory	110.22	E34-110.22

Final Inspection: Branch Circuits/Feeders	2005 NEC	2005 ORSC
Appliance termination	422.16	E37-422.16
Closet lights	410.8	E37-410.8
Maintaining fire rating/separation	300.21	E36-300.21
Flush/recessed fixtures	410.64 – 410.72	E37-410.64 - .72
GFCI protection	210.8	E35-210.8
AFCI protection	210.12	E35-210.12
Lighting/switching outlets	210.70	E35-210.70
Combustible walls/ceilings box setback	314.20	E36-314.20
Polarity of connections	200.11	E35-200.11
Rating/location of panel/OCPD	240.3, 240.4 240.21	E35-240.3, E35-240.4 E35-240.21
Receptacles wet/damp locations	406.8	E37-406.8
1/8-inch space around boxes	314.21	E36-314.21
Spacing of receptacles	210.52	E35-210.52
Track lighting	410.100- 410.105	E37-410.100-.105

Compliance report

The Electrical and Elevator Board found the following violations of the Oregon Electrical Safety Laws in January 2005:

CITY	NAME	VIOLATION	PENALTY
Albany	Randy Joustra Pro-Tech Alarms, Inc.	No electrical contractor license, no electrical permit	\$3,000
Albany	Dustin G. Hall	No supervising or journeyman license	\$1,000
Lafayette	Paul Ridgway Cascade Water Systems, Corp.	Allowed unlicensed individual to make electrical installation	\$1,000
Medford	Dana V. Peters Rogue Electric Service, Inc.	Allowed unlicensed individual to make electrical installation	\$1,000
Medford	Dana V. Peters Rogue Electric Service, Inc.	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation	\$1,000
Medford	Brian J. Ruedy	No supervising or journeyman license	\$1,000
Medford	Gary Brenneman Blaze Signs of America, Inc.	Allowed unlicensed individual to make electrical installation	\$2,000
Portland	Jeremy Schultz	No supervising or journeyman license	\$1,000

The director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in January 2005:

CITY	NAME	VIOLATION	PENALTY
Albany	Randy Joustra Pro-Tech Alarms, Inc.	Violated a final order	\$750
Medford	Gary Brenneman Blaze Signs of America, Inc.	Violated a final order	\$2,500

The Plumbing Board found the following violations of the Oregon Plumbing Specialty Codes in February 2005:

CITY	NAME	VIOLATION	PENALTY
Battle Ground, WA	John R. Tapani JRT Mechanical, Inc.	Allowing unlicensed individuals to make plumbing installations	\$1,000
Grants Pass	Michael J. Toch	No plumbing journeyman certificate of competency	\$1,000
Ridgefield, WA	Gary Scarbrough Advantage Heating Cooling Plumbing, Inc.	Allowing unlicensed individuals to make plumbing installations	\$2,000
Vancouver, WA	Anthony McGee McGee Plumbing Company	Allowing unlicensed individuals to make plumbing installations	\$5,000

Vancouver, WA	Toader Andreica	No plumbing journeyman certificate of competency	\$1,000
Washougal, WA	Ioan Mihaiuc IM Plumbing Incorporated	Allowing unlicensed individuals to make plumbing installations	\$1,000
Woodland, WA	Danny Tikka	No plumbing journeyman certificate of competency	\$1,000

The Director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in February 2005:

CITY	NAME	VIOLATION	PENALTY
Ridgefield, WA	Gary Scarbrough Advantage Heating Cooling Plumbing, Inc.	Violated a final order, no permit	\$2,500

The Board of Boiler Rules found the following violations of the Oregon Boiler Safety Laws in March 2005:

CITY	NAME	VIOLATION	PENALTY
Meridian, ID	Karl Hall Kentek	No boiler/pressure vessel business license, no boiler/pressure vessel installation permit	\$2,000
Portland	Carl E. Rice DeTemple Company, Inc.	No boiler/pressure vessel installation permit (10 violations)	\$10,000
Silverton	Amy Belisle Rock Construction, Inc.	No boiler/pressure vessel business license, no boiler/pressure vessel installation permit	\$2,000

The Electrical and Elevator Board found the following violations of the Oregon Electrical Safety Laws in March 2005:

CITY	NAME	VIOLATION	PENALTY
Central Point	Duane Christensen Lamplighter Lighting & Sign, Inc.	Installing, selling, or disposing of uncertified electrical product, no electrical permit	\$2,000
Clackamas	David W. Seeley NW Entrance, Inc.	No electrical contractor's license, no electrical permit	\$2,000
Corona Del Mar, CA	William R. Enquist Stryker Communications Corporation	Installing, selling, or disposing of uncertified electrical product	\$1,000
Corvallis	Timothy Daniel Kielty	No supervising or journeyman license	\$1,000
Eugene	Brent Lee Morris	No electrical contractor license	\$1,000
Eugene	Ron German Securetech, Inc.	Allowed unlicensed individual to make electrical installation	\$1,000
Florence	David B. Best	As supervising electrician, failed to ensure permit was obtained	\$1,000

Lafayette	Ernest L. Hagel Customized Electric	No electrical permit	\$1,000
Pendleton	Ronald Harral Ron's Stove & Spa Services	No electrical contractor license (2 violations), no electrical permit (2 violations), no supervising or journeyman license (2 violations)	\$1,000
Portland	Emil Bec	No electrical contractor license, no electrical permit, worked outside the scope of the journeyman license by working without a general supervising electrician	\$3,000
Salem	Elmer Rose	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation, multiple violations, revocation of supervising electrician license	\$0
Salem	Gregory A. Rose Electrum Inc.	Allowed unlicensed individuals to make electrical installations, multiple violations	\$12,000
Salem	Tim Albers	No supervising or journeyman license	\$1,000
Shady Cove	Curtis V. Camps	No electrical contractor license (2 violations), no electrical permit (2 violations), no supervising or journeyman license (2 violations), unsafe installation	\$7,000
Springfield	Justin D. Rabe	No supervising or journeyman license	\$1,000
Springfield	Christopher J. Benson	No supervising or journeyman license	\$1,000

The director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in March 2005:

CITY	NAME	VIOLATION	PENALTY
Portland	Carl E. Rice DeTemple Company, Inc.	Violated a final order	\$500

The Electrical and Elevator Board found the following violations of the Oregon Electrical Safety Laws in May 2005:

CITY	NAME	VIOLATION	PENALTY
Albany	Richard Heins Heins Communications, Inc.	Allowed unlicensed individual to make electrical installation	\$1,000
Banks	Katherine Brevik Gardenworks, Inc.	No electrical contractor license, no electrical permit	\$2,000

Central Point.....	Leonard Hosey.....	No electrical contractor license, no electrical permit, no supervising or journeyman license	\$3,000
Hillsboro	Adam Sunderman	No supervising or journeyman license	\$1,000
Hillsboro	Douglas C. Mohr	No electrical contractor license, no electrical permit (3 violations)	\$4,000
	Mohr Solutions, LLC		
Hillsboro	Fredric A. Ekstrom.....	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation	\$1,000
Hillsboro	Fredric A. Ekstrom.....	Allowed unlicensed individual to make electrical installation.....	\$1,000
	Double E Electric, Inc.		
Newport.....	Paul Rivette	Installed or altered elevator without prior plan approval, no elevator contractor's license, no elevator journeyman license	\$3,000
	Cheryle and Co.		
Vancouver, WA	Edmund Lee Magnuson.....	No supervising or journeyman license	\$1,000
Vancouver, WA	Robbin Lee Magnuson.....	No supervising or journeyman license	\$1,000
Williams	Dana J. Roth	Installing, selling, or disposing of uncertified electrical product, no electrical permit, no supervising or journeyman license	\$3,000
	Buck's Antler Lighting & Décor		

The director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in May 2005:

CITY	NAME	VIOLATION	PENALTY
Salem	Jerry Abel.....	Signing for more than one electrical contractor at a time, illegally aiding and abetting another individual in obtaining an electrical permit	\$6,000 and a 30-day suspension
Salem	Brian Wagner.....	Working outside the scope of a journeyman license, (6 violations)	\$6,000 and a 30-day suspension
Salem	Raymond A Bishop	No electrical contractor license, (10 violations)	\$10,000 and a 5-year suspension of journeyman license

BCD board meeting dates

	Sun	Mon
1		2
8		9

ELECTRICAL & ELEVATOR BOARD

Meets at 9:30 a.m. on the fourth Thursday of every other month:

- July 28

BOARD OF BOILER RULES

Meets at 9:30 a.m. on the first Tuesday of each quarter:

- June 7

BUILDING CODES STRUCTURES BOARD

Meets at 9:30 a.m. on the first Wednesday of every other month:

- August 3

MECHANICAL BOARD

Meets at 9:30 a.m. on the first Wednesday of each quarter:

- June 1

STATE PLUMBING BOARD

Meets at 9:30 a.m. on the third Friday of every other month:

- June 17
- August 19

RESIDENTIAL STRUCTURES BOARD

Meets at 9:30 a.m. on the first Wednesday of each quarter:

- July 13

MANUFACTURED STRUCTURES AND PARKS ADVISORY BOARD

Meets at 9:30 a.m. on the second Thursday of every other month:

- September 15

MEETINGS ARE HELD IN THE SALEM
BCD CONFERENCE ROOM AT 1535
EDGEWATER ST. NW.

Meetings may be canceled or rescheduled and meeting dates may be adjusted for holidays. Call BCD to check, (503) 378-4133.

All board meetings begin at 9:30 a.m.

Tri-County code forum dates

	Sun	Mon
1		2
8		9

ELECTRICAL

Meets 4-8 p.m., Thursday

- June 23
 - September 15
- Special 4-hour code-change classes*
- December 8, regular 3-hour session

MECHANICAL

Meets 4-7 p.m., Wednesday

- June 15
- September 14

PLUMBING

Meets 4-7 p.m., Thursday

- June 2
- September 7 (Wednesday)
- December 1

RESIDENTIAL STRUCTURAL

Meets 4-7 p.m., Wednesday

- June 1
- September 21
- December 1

COMMERCIAL STRUCTURAL

Meets 4-7 p.m. Wednesday

- June 8
- December 7

CODE FORUM LOCATIONS

PLUMBING, Sunnybrook Clackamas County Auditorium, 9101 S.E. Sunnybrook Road

ELECTRICAL, MECHANICAL, RESIDENTIAL & COMMERCIAL, 501 S.E. Hawthorne, Portland

Confirmation of executive appointments



Electrical and Elevator Board (ORS 455.138)

Karen Hale, Silverton
(Fire & casualty underwriter)
Unexpired 4-year term
Confirmed 02/10/05
Term: 07/01/03 to 06/30/07
Succeeds Sara Medlock

CODE LINK

STATE OF OREGON • BUILDING CODES DIVISION

CodeLink is a publication of the Building Codes Division, Oregon Department of Consumer & Business Services.

Editors

Joan Stevens-Schwenger
Dian Cox

Publication Design

Shonnie Emerson, DCBS Communications

BCD Administrator

Mark Long



In compliance with the Americans with Disabilities Act (ADA), this publication is available in alternative formats. Call the editor, (503) 373-7438.

Information in CodeLink may be republished without permission.

Visit our Web site,
www.bcd.oregon.gov

440-2666 (6/05/COM)



Building Codes Division
1535 Edgewater St. NW
PO Box 14470
Salem, OR 97309-0404



PRSR STD
US POSTAGE
PAID
SALEM OR
PERMIT NO. 81