**Washington State Energy Code** 

# Builder's Field Guide

**2009 / 8th Edition** 



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**2009 / 8th Edition** 

For use with the 2009 Washington State Energy Code. Applies to all building permits issued on or after January 1, 2011.

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# **Chapter Contents**

Chapter 1	Compliance		
Chapter 2	Foundations		
Chapter 3	Framing		
Chapter 4	Insulation		
Chapter 5	Air Leakage and Moisture Control		
Chapter 6	Plumbing		
Chapter 7	Heating and Cooling Systems		
Chapter 8	Fireplaces and Wood Stoves		
Chapter 9	WSEC Chapter 9 Credits		
Chapter 10	Default Heat Loss Coefficients		
Chapter 11	Lighting		
Supplement A	Improving Forced Air Heating Systems		
Supplement B	Taking Credit for Reduced Air Leakage in Residential Buildings		
Supplement C	Thermal Performance of Common Insulation Materials		
Supplement D	Insulated Concrete Form Systems		
Supplement E	Permeance Value for Common Building Materials		
Supplement F	Common Duct Insulation Materials		

Supplement G Inspecting Attic Insulation

#### Introduction

The 8th edition of the *Builder's Field Guide* outlines acceptable construction practices that meet the 2009 *Washington State Energy Code* (WSEC).

The current edition of the WSEC was adopted effective January 1, 2011. The Code applies to all building jurisdictions in the State for residential construction. For non-residential construction, the code applies everywhere in the state, except Seattle, where municipal versions of the code have been adopted.

The *Builder's Field Guide* covers only residential practices and requirements. A similar guide for non-residential buildings is available from the Northwest Energy Efficiency Council. *www.neec.net* 

The Guide is available online in an effort to provide broad access and to reduce paper consumption. The online version of the Guide is provided to the public free of charge, and all users may print out copies as necessary. You may also want to consider downloading the electronic version of the WSEC, also available online. The *Builder's Field Guide*, and the WSEC can be downloaded from *www.energy.wsu.edu/code* See the copyright notice on the back side of the title page.

#### **Code Review Process**

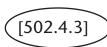
These codes, and all Washington State Building Codes, are developed by the Washington State Building Code Council (SBCC). The SBCC oversees a public process that reviews all codes. The building community, utilities, local government, and state agencies participate in the public process through technical advisory groups organized around each code. The WSEC is updated every three years.

If you are interested in participating in the next code review process, please contact the SBCC at (360) 725-2966 or go to https://fortress.wa.gov/ga/apps/sbcc/default.aspx.

While the practices included in this Guide are generally acceptable for Code compliance, your local building official has the final say as to what meets code in specific applications. Alternative practices not illustrated may be acceptable, but must be approved by the local jurisdiction.

The illustrations contained in this Guide reflect Code requirements. Occasionally, however, recommended practices that go beyond Code requirements are included.

The "good practices" are labeled as such and should not be construed as Code requirements.



#### **Code References in the Guide**

References to the 2009 WSEC are placed in the left margin similar to this sample.

#### What's New In this Edition?

The 2009 WSEC has numerous changes, additions and some deletions from the 2006 WSEC. This edition of the *Builder's Field Guide* reflects those changes. Previous editions had chapters dedicated to radon and ventilation requirements. Those chapters have been deleted because the stand-alone *Ventilation and Indoor Air Quality Code* has been repealed and the requirements have been incorporated into the *International Residential Code* (IRC), *International Mechanical Code* (IMC), and the *International Building Code* (IBC). Two new chapters – 9 (Credits) and 11 (Lighting) – have been added. Illustrations have also been updated. Since this Guide is published in a searchable PDF format, a detailed table of contents and index has been deleted.

If you have questions, comments or other input about the Guide, feel free to email us at <code>energycode@energy.wsu.edu</code>

### **Acknowledgements**

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The 2009 version of the *Builder's Field Guide* was updated by Washington State University Extension Energy Program staffers Gary Nordeen (project lead), Luke Howard, Emily Salzberg, Tanya Beavers, and Gerry Rasmussen (graphic design), and supervised by Todd Currier (Division Manager).

## List of Acronyms Used in the WSEC

ABS Acrylonitrile Butacliene Styrene

ACCA Air Conditioning Contractors of America Association, Inc.

ACH Air Changes per Hour

AFUE Annual Fuel Utilization Efficiency (DOE)

APA American Plywood Association

(now called APA – The Engineered Wood Association)

ASHRAE American Society of Heating, Refrigerating and

Air-Conditioning Engineers

ASTM American Society for Testing and Materials

BTU (Btu) British Thermal Units

CFM (cfm) Cubic Feet per Minute

Code Washington State Energy Code

COP Coefficient of Performance
DOE U.S. Department of Energy

EF Energy Factor

EPA U.S. Environmental Protection Agency

EPS Expanded Polystyrene

HRV Heat Recovery Ventilator

HSPF Heating Season Performance Factor

HUD U.S. Department of Housing and Urban Development

HVAC Heating, Ventilation and Air Conditioning

HVI Home Ventilating Institute

IBC International Building Code

IC rated Insulation Cover Rated

ICF Insulated Concrete Form

IMC International Mechanical Code
IRC International Residential Code

NAECA National Appliance Energy Conservation Act (1987)

NFRC National Fenestration Rating Council

SBCC Washington State Building Code Council

SHGC Solar Heat Gain Coefficient

SEER Seasonal Energy Efficiency Ratio

SLA Specific Leakage Area

SMACNA Sheet Metal & Air Conditioning Contractors

National Association

sq.ft. Square Foot/Feet

SRCC Solar Rating Certification Corporation

UA U-Factor x Area

UL 181 Underwriter's Laboratory Test #181

WSEC Washington State Energy Code

XPS Extruded Polystyrene