



NGBS Scoring for New Construction
ICC 700-2008 National Green Building Standard™

Revised August 17, 2011

This project has not met all the requirements for Bronze, Silver, Gold, or Emerald.

	Current Status		Performance Level Minimums			
	Score	Mandatory	Bronze	Silver	Gold	Emerald
This Chapter	0	Not Met	30	60	100	120
This Project	0	Not Met	222	406	558	697

701.1 - Energy Path chosen: You must choose an Energy Path in 701.1

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Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes
701 - Minimum Energy Efficiency Requirements						
701.1	Mandatory requirements: The building shall comply with either Section 702 (Performance Path) or Section 703 (Prescriptive Path). Items listed as "mandatory" in Section 701.4 apply to both the Performance and Prescriptive Paths.	You must choose an Energy Path BEFORE you can score the rest of Chapter 7!				
701.1.1	Minimum Performance Path requirements. A building complying with Section 702 shall exceed the baseline minimum performance required by the ICC 2006 IECC by 15%, and shall include a minimum of 2 practices from Section 704.	30 for Alternative Bronze Level		Software report indicating at least 15% over the IECC 2006 requirement for this climate location. Acceptable software includes REM/Rate, or Energy Gauge. The same software report can be used to support performance point claim in Section 702.		
701.1.2	Minimum Prescriptive Path requirements. A building complying with Section 703 shall obtain a minimum of 30 points from Section 703, and shall include a minimum of 2 practices from Section 704.					
701.1.3	Alternative Bronze Level compliance. As an alternative, any building that qualifies as an ENERGY STAR® 2.0 Qualified Home or equivalent achieves the Bronze Level for Chapter 7. If you claim the 30 points for practice 701.1.3, this chapter and this project cannot achieve a level higher than Bronze. If you want to achieve Silver, Gold or Emerald, you may not use this option. If you claim points for this practice, skip the following sections: * 701.3 - Adopting Entity review * 701.4 - Mandatory Practices * 702 - Performance Path * 703 - Prescriptive Path You can claim points in Section 704 that count toward additional points needed for the project to reach the bronze level. YOU MUST SELECT AN ENERGY PATH FIRST BEFORE YOU CAN SCORE THE REST OF CHAPTER 7!					
701.2	EMERALD LEVEL POINTS. The Performance Path shall be used to achieve the Emerald Level.					
701.3 BC	Adopting Entity review. A review by third party shall be conducted to verify design and compliance with Chapter 7 points. NOTE: In the Additional Info box below, list the reviewer.	Mandatory		3rd party report showing design has been reviewed to ensure energy efficient performance or specific prescriptive details are adequately implemented in the building's design, and to ensure proper integration of various energy efficient technologies.	--	
Additional Info:						
701.4 701.4.1 701.4.1.1 BC	Mandatory Practices HVAC systems. Space heating and cooling system/equipment is sized according to heating and cooling loads calculated using ACCA Manual J, or equivalent.	Mandatory		Software output report using ACCA Manual J or equivalent with recommended HVAC equipment sizes.	--	
701.4.1.2 BC	Where installed as a primary heat source in the building, radiant or hydronic space heating system is designed using industry-approved guidelines (e.g., ACCA Manual J, GAMA H-22, or an accredited design professional's and manufacturer's recommendations).	Mandatory, if applicable		When primary heat source in the building is a radiant or hydronic heating system, evidence (e.g., statement from qualified professional) of system design using industry-approved guidelines.	--	
701.4.2 701.4.2.1	Duct systems. Ducts are sealed with tape complying with UL 181, mastic, gaskets, or an approved system as required by the ICC IRC, Section M1601.3.1, or ICC IMC, Section 603.9 to reduce leakage.	Mandatory, if there is a duct system		For buildings with ducted systems provide product spec or trade contractor's scope of work to confirm use of duct sealing using UL 181 tape, mastic, gaskets, or an IRC or ICC/IMC approved system.	--	
701.4.2.2	Building cavities are not used as supply ducts.	Mandatory		None.	--	
701.4.3 701.4.3.1	Insulation and air sealing. GENERAL. Insulation and air sealing is in accordance with the following:					

Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes																							
BC (1)	Insulation. Insulation is installed in accordance with the manufacturer's instructions or local code, as applicable.	Mandatory		Insulation installation requirements, either manufacturer's instructions or specific local code guidance. Evidence of an approved local code insulation inspection can be used as acceptable evidence for this verification.	See Products																								
BC (2)	Shafts (duct shaft, piping shaft/penetrations, flue shaft). Openings to unconditioned space are fully sealed with solid blocking or flashing and any remaining gaps are sealed with caulk or foam. Fire-rated collars and caulking are installed where required.	Mandatory		None.	See Products																								
701.4.3.2 BC (1)	FLOORS, FOUNDATIONS, AND CRAWLSPACES Floors. (including insulated floors above garages and cantilevered floors) (a) Insulation is installed to maintain permanent contact with the underside of the subfloor decking, enveloping any attached ductwork within the thermal envelope without compression or air gaps in the insulation. This practice does not apply to ducts or other mechanical equipment that is adjacent to the underside of the subfloor. (b) Batt and loose-fill insulation is held in place by permanent attachments or systems in accordance with the manufacturer's instructions.	Mandatory, if applicable		None.	--																								
BC (2)	Crawlspace. Where insulated, crawlspace wall insulation is permanently attached to the walls. Exposed earth in unvented crawlspaces is covered with continuous vapor retarder with overlapping joints that are taped or masticed.	Mandatory, if applicable		None.	--																								
701.4.3.3 BC (1)	WALLS. Windows and doors. Caulking, gasketing, adhesive flashing tape, foam sealant, or weather-stripping is installed forming a complete air barrier.	Mandatory		Window and door installation detail on plans showing how installation will form a complete air barrier.	See Products																								
BC (2)	Band joist and rim joists. Band and rim joists are insulated and air sealed.	Mandatory, if applicable		Plan details to show how band or rim joists are to be insulated and sealed.	See Products																								
BC (3)	Between foundation and sill plate bottom plate. (a) Sill sealer or other material that will expand and contract is installed between foundation and sill plate, AND (b) Caulk or the equivalent is installed to seal the bottom plate of exterior walls.	Mandatory, if applicable		Product spec to confirm required use of flexible sill sealer or other material between foundation and sill plate and the bottom plate of exterior walls.	See Products																								
BC (4)	Skylights and knee walls. Skylight shafts and knee walls are insulated to the same level as the exterior walls.	Mandatory, if applicable		If R values are not obvious through insulation label provide plan details to show insulation is at same level as exterior walls.	See Products																								
BC (5)	Exterior architectural features. Code required building envelope insulation and air sealing are not disrupted at exterior architectural features such as stairs and decks.	Mandatory, if applicable		Details of insulation and air sealing at penetrations.	--																								
701.4.3.4 BC (1)	CEILING AND ATTICS. Attic access (except unvented attics). Attic access, knee wall door, or drop-down stair is covered with insulation and gasketed. Knee wall door is an insulated unit or is covered with insulation.	Mandatory, if applicable		None.	--																								
BC (2)	Recessed lighting. Recessed light fixtures that penetrate the thermal envelope are airtight, IC-rated, and sealed with gasket, caulk, or foam.	Mandatory, if applicable		Product info to confirm all fixtures penetrating the envelope are IC-rated and airtight.	--																								
BC (3)	Eave vents. Where ceiling/attic assemblies or designs have eave vents, baffles or other means are implemented to minimize air movement into or under the insulation.	Mandatory, if applicable		None.	--																								
701.4.4	Fenestration.																												
701.4.4.1 BC	NFRC-certified U-factor and SHGC windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with ENERGY STAR® (or equivalent) or Table 701.4.4.1. Decorative fenestration elements with a maximum area of 15 square feet (1.39 m2) or 10% of the total glazing area, whichever is less, are not required to comply with this practice.	Mandatory		Labels on units or other documentation.	See Products																								
	<table border="1"> <caption>Table 701.4.4.1 Fenestration Specifications</caption> <thead> <tr> <th rowspan="2">Climate Zones</th> <th>U-Factor</th> <th>SHGC</th> </tr> <tr> <th colspan="2">Windows and Exterior Doors</th> </tr> </thead> <tbody> <tr> <td>1 and 2</td> <td>0.65</td> <td>0.40</td> </tr> <tr> <td>3</td> <td>0.40</td> <td>0.40</td> </tr> <tr> <td>4 to 8</td> <td>0.35</td> <td>Any</td> </tr> <tr> <th colspan="3">Skylights and TDDs</th> </tr> <tr> <td>1 to 3</td> <td>0.75</td> <td>0.40</td> </tr> <tr> <td>4 to 8</td> <td>0.60</td> <td>Any</td> </tr> </tbody> </table>	Climate Zones	U-Factor	SHGC	Windows and Exterior Doors		1 and 2	0.65	0.40	3	0.40	0.40	4 to 8	0.35	Any	Skylights and TDDs			1 to 3	0.75	0.40	4 to 8	0.60	Any					
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702 - Performance Path																													
You did not select the Performance Path in 701.1. DO NOT claim points for Section 702																													
702.1	Points from Section 702 (Performance Path) shall not be combined with points from Section 703																												
702.2	Energy cost performance levels. Energy efficiency features are implemented to achieve energy cost performance that exceeds the ICC 2006 IECC by the following. A documented analysis using software in accordance with ICC IECC, Section 404, or ICC IECC Section 506.2 through 506.5, applied as defined in the ICC IECC, is required. Claim points for only one from (1)-(4) below:																												
(1)	15 percent	30																											

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(2)	30 percent	60																																							
(3)	50 percent	100																																							
(4)	60 percent	120																																							
<p>NOTE: In the Additional Info box below, list the actual percentage above IECC.</p> <p>All buildings using this path must have their performance claim supported by REM/Rate or Energy Gauge output reports prepared and signed by a qualified energy professional. The 2006 IECC must be the basis for this analysis.</p> <p>If performance claim is 1) not to be supported by performance test data, and 2) not to be based on energy recovery, 1) the qualified professional must assume in their energy simulation an SLA of 0.00036 for the infiltration, and 2) no energy recovery for the ventilation system for either the REM/Rate or Energy Gauge output report.</p> <p>Test results must be submitted for performance claims which use an infiltration other than SLA = 0.00036, or for buildings that claim points for simulate energy recovery. Submit performance test results per Section</p>																																									
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703 - Prescriptive Path																																									
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703.1	Building envelope																																								
703.1.1	Where the total building thermal envelope UA is less than required by ICC IECC, Section 402.1.4, the total building thermal envelope UA is in accordance with Table 703.1.1. Where insulation is used to achieve these percentages, a third-party grading of the installation as achieving Grade 1 is required. A documented analysis is performed using RESCheck version 4.0.1 or later (or equivalent), based on a comparison to the ICC IECC, IRC, or IBC.	Points per Table 703.1.1		RESCheck 4.0.1 or other equivalent analysis method to show either 10% or 20% UA improvement. Documentation of 3rd party insulation installation grading results.																																					
	<table border="1"> <thead> <tr> <th colspan="6">Table 703.1.1 Total Building Thermal Envelope UA</th> </tr> <tr> <th rowspan="2"></th> <th colspan="5">Climate Zone</th> </tr> <tr> <th>2</th> <th>3</th> <th>4</th> <th>5-6</th> <th>7-8</th> </tr> <tr> <th colspan="6">Points</th> </tr> </thead> <tbody> <tr> <td>10% UA improvement</td> <td>10</td> <td>12</td> <td>14</td> <td>16</td> <td>18</td> </tr> <tr> <td>20% UA improvement</td> <td>20</td> <td>24</td> <td>28</td> <td>32</td> <td>36</td> </tr> </tbody> </table> <p>See a map of Climate Zones by States & Counties.</p> <p>NOTE: If points are awarded in 703.1.1, they cannot be awarded in section 703.1.2.</p> <p>No zone chosen for this project. See the Start Here! worksheet.</p>	Table 703.1.1 Total Building Thermal Envelope UA							Climate Zone					2	3	4	5-6	7-8	Points						10% UA improvement	10	12	14	16	18	20% UA improvement	20	24	28	32	36					
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703.1.2	The insulation installation is graded by a third party and is in accordance with Sections 703.1.2.1, 703.1.2.2, 703.1.2.3, and/or 703.1.2.4, as applicable.	Grade 1 = 15 pts Grade 2 = 10 pts Grade 3 = 0 pts		If no points were claimed in 703.1.1, provide documentation of 3rd party insulation installation grading results.																																					
	<p>See Sections 703.1.2.1, 703.1.2.2, 703.1.2.3, and/or 703.1.2.4</p> <p>NOTE: If points are awarded in 703.1.1, they cannot be awarded in section 703.1.2.</p> <p>In the Additional Info box below, list the third party grader and the grade received.</p>																																								
Additional Info:																																									
703.1.3	More than 75% of the above-grade exterior opaque wall area of the building is mass walls. Points awarded according to Table 703.1.3.	Points per Table 703.1.3		None.																																					
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703.2	Insulation & air sealing																																								
703.2.1	Insulation and air sealing is installed in accordance with Sections 703.2.1.1, 703.2.1.2, 703.2.1.3, 703.2.1.4, as applicable.																																								
bc (1)	Claim points for only one from (1)-(2) below: third party verification performed	15		Signed 3rd party report that all items in 703.2.1 were followed in the foam insulation, air sealing, plumbing, wiring, HVAC register boots, masonry fireplace, air barrier, together with the wall, ceiling and attic insulation.																																					
(2)	no third party verification performed	3		Checklist signed by the inspector that all items in 703.2.1 were followed in the foam insulation, air sealing, plumbing, wiring, HVAC register boots, masonry fireplace, air barrier, together with the wall, ceiling and attic insulation.	See Products																																				

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<p>See Sections 703.2.1.1, 703.2.1.2, 703.2.1.3, 703.2.1.4</p> <p>NOTE: In the Additional Info box below, list the third-party verifier, if applicable.</p>																																																																														
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703.3 703.3.1	<p>Fenestration</p> <p>The NFRC-certified (or equivalent) U-factor and SHGC for windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with Table 703.3.1(a) or (b). Decorative fenestration elements with a maximum area of 15 square feet (1.39 m²) or 10% of the total glazing area, whichever is less, are not required to comply with this practice.</p>	Points per Table 703.3.1(a) or Table 703.3.1(b)		Labels on units or other documentation. Prepare summary table of U-Factor and SHGC for all fenestration.	See Products																																																																									
<table border="1"> <thead> <tr> <th colspan="3">Table 703.3.1(a) Enhanced Fenestration Specifications</th> </tr> <tr> <th>Climate Zones</th> <th>U-Factor Windows & Exterior Doors</th> <th>SHGC</th> </tr> </thead> <tbody> <tr> <td>1 and 2</td> <td>0.45</td> <td>0.30</td> </tr> <tr> <td>3</td> <td>0.35</td> <td>0.30</td> </tr> <tr> <td>4 to 8</td> <td>0.30</td> <td>Any</td> </tr> <tr> <th colspan="3">Skylights & TDDs</th> </tr> <tr> <td>1 to 3</td> <td>0.55</td> <td>0.35</td> </tr> <tr> <td>4 to 8</td> <td>0.55</td> <td>Any</td> </tr> <tr> <th colspan="3">Points</th> </tr> <tr> <td>Zones 1-3</td> <td colspan="2">8</td> </tr> <tr> <td>Zones 4-5</td> <td colspan="2">5</td> </tr> <tr> <td>Zones 6-8</td> <td colspan="2">6</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Table 703.3.1(b) Enhanced Fenestration Specifications</th> </tr> <tr> <th>Climate Zones</th> <th>U-Factor Windows & Exterior Doors</th> <th>SHGC</th> </tr> </thead> <tbody> <tr> <td>1 and 2</td> <td>0.45</td> <td>0.25</td> </tr> <tr> <td>3</td> <td>0.35</td> <td>0.25</td> </tr> <tr> <td>4 to 8</td> <td>0.25</td> <td>Any</td> </tr> <tr> <th colspan="3">Skylights & TDDs</th> </tr> <tr> <td>1 to 3</td> <td>0.50</td> <td>0.35</td> </tr> <tr> <td>4 to 8</td> <td>0.50</td> <td>Any</td> </tr> <tr> <th colspan="3">Points</th> </tr> <tr> <td>Zones 1-3</td> <td colspan="2">10</td> </tr> <tr> <td>Zones 4-5</td> <td colspan="2">10</td> </tr> <tr> <td>Zones 6-8</td> <td colspan="2">12</td> </tr> </tbody> </table> <p>No zone chosen for this project. See the Start Here! worksheet.</p>							Table 703.3.1(a) Enhanced Fenestration Specifications			Climate Zones	U-Factor Windows & Exterior Doors	SHGC	1 and 2	0.45	0.30	3	0.35	0.30	4 to 8	0.30	Any	Skylights & TDDs			1 to 3	0.55	0.35	4 to 8	0.55	Any	Points			Zones 1-3	8		Zones 4-5	5		Zones 6-8	6		Table 703.3.1(b) Enhanced Fenestration Specifications			Climate Zones	U-Factor Windows & Exterior Doors	SHGC	1 and 2	0.45	0.25	3	0.35	0.25	4 to 8	0.25	Any	Skylights & TDDs			1 to 3	0.50	0.35	4 to 8	0.50	Any	Points			Zones 1-3	10		Zones 4-5	10		Zones 6-8	12	
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703.4 703.4.1	<p>HVAC equipment efficiency</p> <p>Combination space heating and water heating system (combo system) is installed using either a coil from the water heater connected to an air handler or dwelling unit, or a space heating boiler using an indirect-fired water heater. Devices must have a combined annual efficiency of 0.80.</p>	4		Manufacturer's specification for combo system showing combined annual efficiency of at least 0.80.	-																																																																									
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703.4.2	<p>Furnace and/or boiler efficiency is in accordance with the following conditions. Claim points for only one from (1)-(4) below:</p>																																																																													
(1)	<p>Gas and propane heaters</p> <table border="1"> <thead> <tr> <th colspan="7">Table 703.4.2(1) Gas and Propane Heaters</th> </tr> <tr> <th rowspan="2"></th> <th colspan="6">Climate Zone</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6-8</th> </tr> <tr> <th colspan="7">Points</th> </tr> </thead> <tbody> <tr> <td>≥90% AFUE</td> <td>0</td> <td>2</td> <td>5</td> <td>8</td> <td>11</td> <td>14</td> </tr> <tr> <td>≥92% AFUE</td> <td>0</td> <td>2</td> <td>6</td> <td>9</td> <td>12</td> <td>15</td> </tr> <tr> <td>≥94% AFUE</td> <td>0</td> <td>3</td> <td>7</td> <td>10</td> <td>14</td> <td>17</td> </tr> </tbody> </table> <p>NOTE: Specify actual % AFUE in the Additional Info box below.</p> <p>No zone chosen for this project. See the Start Here! worksheet.</p>	Table 703.4.2(1) Gas and Propane Heaters								Climate Zone						1	2	3	4	5	6-8	Points							≥90% AFUE	0	2	5	8	11	14	≥92% AFUE	0	2	6	9	12	15	≥94% AFUE	0	3	7	10	14	17	Points per Table 703.4.2(1)		Manufacturer's equipment name plate or specifications.	See Products																									
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	1	2	3	4	5	6-8																																																																								
Points																																																																														
≥83% AFUE	0	1	3	3	7	7																																																																								
≥90% AFUE	0	2	5	8	11	14																																																																								
(3)	<p>Gas boiler</p> <table border="1"> <thead> <tr> <th colspan="7">Table 703.4.2(3) Gas Boiler</th> </tr> <tr> <th rowspan="2"></th> <th colspan="6">Climate Zone</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6-8</th> </tr> <tr> <th colspan="7">Points</th> </tr> </thead> <tbody> <tr> <td>≥85% AFUE</td> <td>0</td> <td>1</td> <td>3</td> <td>4</td> <td>6</td> <td>7</td> </tr> <tr> <td>≥90% AFUE</td> <td>0</td> <td>2</td> <td>5</td> <td>8</td> <td>11</td> <td>14</td> </tr> <tr> <td>≥94% AFUE</td> <td>0</td> <td>3</td> <td>7</td> <td>10</td> <td>14</td> <td>17</td> </tr> </tbody> </table> <p>NOTE: Specify actual % AFUE in the Additional Info box below.</p> <p>No zone chosen for this project. See the Start Here! worksheet.</p>	Table 703.4.2(3) Gas Boiler								Climate Zone						1	2	3	4	5	6-8	Points							≥85% AFUE	0	1	3	4	6	7	≥90% AFUE	0	2	5	8	11	14	≥94% AFUE	0	3	7	10	14	17	Points per Table 703.4.2(3)		Manufacturer's equipment name plate or specifications.																										
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Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes																																																							
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(4)	Oil boiler	Points per Table 703.4.2(4)		Manufacturer's equipment name plate or specifications.																																																									
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703.4.3	Boiler is equipped with temperature reset control or burner delay control.	1		Manufacturer's specification for installed equipment.	--																																																								
NOTE: Points awarded for 703.4.3 only if points are claimed for 703.4.2(3) or 703.4.2(4).																																																													
703.4.4	Heat pump heating efficiency is in accordance with Table 703.4.4. Refrigerant charge is verified for compliance with manufacturer's instructions.	Points per Table 703.4.4		Manufacturer's specification for installed equipment.	See Products																																																								
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703.4.5	Cooling efficiency is in accordance with the following conditions. Refrigerant charge is verified for conformance with manufacturer's instructions.																																																												
(1)	Air conditioner and heat pump cooling:	Points per Table 703.4.5(1)		Manufacturer's specification for installed equipment.	See Products																																																								
<table border="1"> <thead> <tr> <th colspan="7">Table 703.4.5(1) Air Conditioner and Heat Pump Cooling</th> </tr> <tr> <th rowspan="2"></th> <th colspan="6">Climate Zone</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6-8</th> </tr> <tr> <th colspan="7">Points</th> </tr> </thead> <tbody> <tr> <td>≥14 SEER (11.5 EER)</td> <td>8</td> <td>6</td> <td>2</td> <td>2</td> <td>1</td> <td>1</td> </tr> <tr> <td>≥15 SEER (12.5 EER)</td> <td>12</td> <td>10</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> </tr> <tr> <td>≥17 SEER (12.5 EER)</td> <td>18</td> <td>14</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> <tr> <td>≥19+ SEER (12.5 EER)</td> <td>24</td> <td>18</td> <td>8</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table> <p>NOTE: Points awarded for 703.4.5(1) OR 703.4.5(2), not both. Specify actual SEER in the Additional Info box below. No zone chosen for this project. See the Start Here! worksheet.</p>							Table 703.4.5(1) Air Conditioner and Heat Pump Cooling								Climate Zone						1	2	3	4	5	6-8	Points							≥14 SEER (11.5 EER)	8	6	2	2	1	1	≥15 SEER (12.5 EER)	12	10	4	3	2	2	≥17 SEER (12.5 EER)	18	14	6	4	3	3	≥19+ SEER (12.5 EER)	24	18	8	4	3	3
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(2)	Water source and cooled air conditioners:	Points per Table 703.4.5(2)		Manufacturer's specification for installed equipment.																																																									
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Additional Info:																																																													
703.4.6	Ground source heat pump is installed by a Certified Geothermal Service Contractor in accordance with one of the following ENERGY STAR levels. Claim points for only one from (1)-(4) below:																																																												
(1)	Open loop: ≥ 16.2 EER / ≥ 3.6 COP	20		Evidence of ground source heat pump installation by a Certified Geothermal Service Contractor (such as the International Ground Source Heat Pump Association). Documentation needs to include EER and COP of installed system.																																																									
(2)	Closed loop: ≥ 14.1 EER / ≥ 3.3 COP	20																																																											
(3)	Direct expansion: ≥ 15.0 EER / ≥ 3.5 COP	20																																																											
(4)	Any type: ≥ 24 EER / ≥ 4.3 COP	30																																																											
NOTE: Specify actual EER and COP in the Additional Info box below.																																																													
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Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes																					
703.4.7	ENERGY STAR (or equivalent) ceiling fan(s) are installed. NOTE: For multi-unit buildings, each dwelling unit must comply to claim this point.	1		Leave labels on fans or manufacturer's literature/specifications to show ALL fans are ENERGY STAR.	--																						
703.4.8	Whole building or whole dwelling unit fan(s) with insulated louvers and a sealed enclosure is installed. NOTE: For multi-unit buildings, each dwelling unit must have compliant whole dwelling unit fans installed to claim these points.	2		None.	--																						
703.4.9	In multi-unit buildings, an advanced electric and fossil fuel submetering system is installed to monitor electricity and fossil fuel consumption for each unit. At a minimum, the information is available to the occupants on a monthly basis. Claim points for only one from (1)-(2) below: (1) Install a device providing monthly consumption information. (2) Install a device that can provide near real-time energy consumption information. NOTE: Points for 703.4.9 awarded for multi-unit buildings only.	1 4		None.	--	This project must be labelled Multi-Unit & have 2 or more units (see Start Here! worksheet) AND follow the Prescriptive Path for Energy Efficiency (see 701.1) to claim points for 703.4.9.																					
703.4.10	An ENERGY STAR (or equivalent) programmable thermostat is installed in each heating and cooling zone.	1		Leave labels on T-stat(s) or manufacturer's literature/specifications to show ALL T-stats in each unit are ENERGY STAR.	See Products																						
703.5	Water heating design, equipment, and installation																										
703.5.1	Water heater Energy Factor (EF) is equal to or greater than the following. Claim points for only one from (1)-(4) below: (1) Gas water heating		Points per Table 703.5.1(1)(a) or (b)	Gas water heating. Manufacturer's literature or nameplate information for gas WH input rate and documented Energy Factor.	--																						
	<table border="1"> <caption>Table 703.5.1(1)(a) - Gas Water Heating (Storage with input rate of ≤75,000 Btu/h or instantaneous input rate of ≤200,000 Btu/h)</caption> <thead> <tr> <th>Size (gallons)</th> <th>Energy Factor</th> <th>Points</th> </tr> </thead> <tbody> <tr><td>30 to <40</td><td>0.64</td><td>1</td></tr> <tr><td>40 to <50</td><td>0.62</td><td>1</td></tr> <tr><td>50 to <65</td><td>0.60</td><td>1</td></tr> <tr><td>65 to <75</td><td>0.58</td><td>1</td></tr> <tr><td>75</td><td>0.56</td><td>1</td></tr> <tr><td>Any</td><td>0.80</td><td>10</td></tr> </tbody> </table> <p>For SI: 1 gallon = 3.785 L</p>	Size (gallons)	Energy Factor	Points	30 to <40	0.64	1	40 to <50	0.62	1	50 to <65	0.60	1	65 to <75	0.58	1	75	0.56	1	Any	0.80	10					
Size (gallons)	Energy Factor	Points																									
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75	0.56	1																									
Any	0.80	10																									
	<table border="1"> <caption>Table 703.5.1(1)(b) - Gas Water Heating (Storage with input rate >75,000 Btu/h or instantaneous input rate >200,000 Btu/h)</caption> <thead> <tr> <th>Size (gallons)</th> <th>Thermal Factor</th> <th>Points</th> </tr> </thead> <tbody> <tr><td>Any</td><td>82-86%</td><td>1</td></tr> <tr><td>Any</td><td>>86%</td><td>10</td></tr> </tbody> </table>	Size (gallons)	Thermal Factor	Points	Any	82-86%	1	Any	>86%	10																	
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	NOTE: If points are claimed for 703.5.1(1), specify either Table 703.5.1(1)(a) or Table 703.5.1(1)(b) referenced in the Additional Info box below. Please also list size (gallons) of gas water heating unit.																										
Additional Info:																											
	(2) Electric water heating		1 point per Table 703.5.1(2)	Electric water heating. Manufacturer's literature or nameplate information for electric WH size and documented Energy Factor.	--																						
	<table border="1"> <caption>Table 703.5.1(2) Electric Water Heating</caption> <thead> <tr> <th>Size (gallons)</th> <th>Energy Factor</th> <th>Points</th> </tr> </thead> <tbody> <tr><td>30 to <40</td><td>0.95</td><td>1</td></tr> <tr><td>40 to <50</td><td>0.94</td><td>1</td></tr> <tr><td>50 to <65</td><td>0.92</td><td>1</td></tr> <tr><td>65 to <80</td><td>0.90</td><td>1</td></tr> <tr><td>80 to <100</td><td>0.88</td><td>1</td></tr> <tr><td>≥100</td><td>0.86</td><td>1</td></tr> </tbody> </table> <p>For SI: 1 gallon = 3.785 L</p>	Size (gallons)	Energy Factor	Points	30 to <40	0.95	1	40 to <50	0.94	1	50 to <65	0.92	1	65 to <80	0.90	1	80 to <100	0.88	1	≥100	0.86	1					
Size (gallons)	Energy Factor	Points																									
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	NOTE: Specify size (gallons) and EF of electric water heating unit in the Additional Info box below.																										
Additional Info:																											
	(3) Oil water heating		1 point per Table 703.5.1(3)	Oil water heating. Manufacturer's literature or nameplate information for oil WH size and documented Energy Factor.	--																						
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Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes												
(4)	Heat pump water heating <table border="1"> <thead> <tr> <th colspan="3">Table 703.5.1(3) Oil Water Heating</th> </tr> <tr> <th>Size (gallons)</th> <th>Energy Factor</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>Heat Pump</td> <td>1.50</td> <td>7</td> </tr> <tr> <td>Heat Pump</td> <td>2.00</td> <td>10</td> </tr> </tbody> </table>	Table 703.5.1(3) Oil Water Heating			Size (gallons)	Energy Factor	Points	Heat Pump	1.50	7	Heat Pump	2.00	10	Points per Table 703.5.1(4)		Heat pump water heating. Manufacturer's literature or nameplate information for heat pump that documents Energy Factor.		
Table 703.5.1(3) Oil Water Heating																		
Size (gallons)	Energy Factor	Points																
Heat Pump	1.50	7																
Heat Pump	2.00	10																
703.5.2	Desuperheater is installed by a qualified installer or is pre-installed in the factory. No zone chosen for this project. See the Start Here! worksheet.	Zones 1-4 = 5 pts Zones 5-8 = 2 pts		Evidence of factory installation or installation by qualified installer.	--													
703.5.3	Drain-water heat recovery system is installed in multi-family units. NOTE: Points for 703.5.3 awarded for multi-unit buildings only.	2		None.	--	This project must be labeled Multi-Unit & have 2 or more units (see Start Here! worksheet) AND follow the Prescriptive Path for Energy Efficiency (see 701.1) to claim points for 703.5.3.												
703.5.4.1	Hot water lines insulated to a min of R-4.	1		If insulation is not labeled, provide manufacturer's literature.	--													
703.5.4.2	Boiler supply piping is insulated in unconditioned spaces. NOTE: Points not awarded for 703.5.4.2 unless points claimed in 703.4.2(3) or 703.4.2(4).	1		None.	--													
703.5.5	Indirect fired water heater storage tanks heated from boiler systems are installed. NOTE: Points not awarded for 703.5.5 unless points claimed in 703.4.2(3) or 703.4.2(4).	1		None.	--													
704 - Additional Practices																		
704.1	APPLICATION OF ADDITIONAL PRACTICE POINTS. Points from Section 704 can be added to points earned in Section 702 (Performance Path), Section 703 (Prescriptive Path), or Section 701.1.3 (alternative bronze level compliance).																	
704.2	Lighting and appliances																	
704.2.1	Hard-wired lighting is in accordance with one of the following conditions. Claim points for only one from (1)-(2) below:																	
(1)	A minimum of 50% of the total hard-wired lighting fixtures, or the bulbs in those fixtures, qualify as ENERGY STAR or equivalent.	4																
(2)	A minimum of 50% percent of the total hard-wired lighting fixtures qualify as ENERGY STAR or equivalent.	8																
(3)	A minimum of 80% of the exterior lighting wattage has an efficiency of 40 lumens per watt minimum or be a solar-powered light fixture.		No points assigned per National Green Building Standard	None.	--													
704.2.2	The number of recessed light fixtures that penetrate the thermal envelope are less than 1 per 400 square feet (37.16 m ²) of total conditioned floor area and are in accordance with Section 701.4.3.4(2).	2		Calculation of the number of recessed light fixtures penetrating the thermal envelope and the above grade conditioned square footage per Z765.	--													
704.2.3	Occupancy sensors are installed on indoor lights, and photo or motion sensors are installed on outdoor lights to control lighting. Claim points for only one from (1)-(2) below:																	
(1)	25% of lighting	2		None.	See Products													
(2)	50% of lighting	4																
704.2.4	Tubular daylighting device (TDD) or a skylight with sealed, insulated, low-E glass is installed in all rooms without windows. <i>Examples: bathroom, internal hallway, walk-in closet, laundry room.</i>	2		Manufacturer's specification on any installed TDDs or skylights documenting sealed, insulated low-E glass.	See Products													
704.2.5	ENERGY STAR or equivalent appliance(s) are installed: Claim points for all that apply from (1)-(3) below:																	
(1)	refrigerator	5		Manufacturer's specification or ENERGY STAR label for appliance.	--													
(2)	dishwasher	2																
(3)	washing machine	4																
704.2.6	Induction cooktop is installed.	1		None.	--													
704.2.7	Occupancy sensors are installed for a minimum of 80% of hardwired lighting outlets.	1		None.	See Products													
704.3	Renewable energy and solar heating and cooling																	
704.3.1	Solar space heating and cooling																	
704.3.1.1	Building orientation, sizing of glazing, and design of overhangs are in accordance with Sections 704.3.1.1(1-9). See Sections 704.3.1.1(1-9) NOTE: Points must be claimed for 704.3.1.1 to claim points for 704.3.1.4.	5		Design documentation by qualified solar design professional that building complies with all 9 design conditions of 704.3.1.1.	--													
704.3.1.2	Automated solar protection is installed to provide shading for windows.	1		None.	--													

Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes																		
704.3.1.3	<p>Passive cooling design features are in accordance with the following: Claim points for at least 3 from (1)-(6) below, but no more than 4:</p> <p>(1) Exterior shading is provided on east and west windows using one or a combination of the following: (a) Vine-covered trellises with the vegetation separated a minimum of 1 foot (305 mm) from face of building (b) moveable awnings or louvers (c) covered porches (d) attached or detached conditioned/unconditioned enclosed space that provides full shade of east and west windows (e.g., detached garage, shed, or building)</p> <p>(2) Overhangs are installed to provide shading on south-facing glazing in accordance with Section 704.3.1.1(7). NOTE: Points not awarded for 704.3.1.3(2) if points are awarded for 704.3.1.1.</p> <p>(3) Windows and/or venting skylights are located to facilitate cross ventilation.</p> <p>(4) Solar reflective roof or radiant barrier is installed in climate zones 1, 2, or 3 and roof material achieves a 3-year aged criteria of 0.50.</p> <p>(5) Internal exposed thermal mass is a minimum of 3 inches (76 mm) in thickness. Thermal mass consists of concrete, brick, and/or tile that are fully adhered to a masonry base or other masonry material and is in accordance with one or a combination of the following: (a) a minimum of 1 square foot (0.09m²) of exposed thermal mass of floor per 3 square feet (2.8 m²) of gross finished floor area. (b) a minimum of 3 square feet (2.8 m²) of exposed thermal mass in interior walls or elements per square foot (0.09m²) of gross finished floor area.</p> <p>(6) Roofing material is installed with a minimum of 0.75 inch (19mm) continuous air space offset from the roof deck from eave to ridge. No zone chosen for this project. See the Start Here! worksheet.</p>	1 1 1 1 1 1		When thermal mass is claimed provide calculation for ratio of exposed thermal mass to conditioned floor space. See Products																				
704.3.1.4	<p>Passive solar heating design. In addition features in 704.3.1.1, all of Sections 704.3.1.4(1-3) are implemented. See Sections 704.3.1.4(1-3) NOTE: Points must be claimed for 704.3.1.1 to claim points for 704.3.1.4.</p>	4		Documentation from a solar design professional that each of items 1, 2, and 3 have been included in this building's design.	--																			
704.3.2 704.3.2.1	<p>Solar water heating Solar water heater. SRCC (Solar Rating & Certification Corporation) OG 300 rated (or equivalent) solar domestic water heating system installed. Solar Energy Factor (SEF as defined by SRCC) is in accordance with Table 704.3.2.1. Claim points for only one from (1)-(2) below:</p> <p>(1) Electric Tank, SEF</p> <p>(2) Gas Tank, SEF</p>	Points per Table 704.3.2.1 Points per Table 704.3.2.1		Manufacturer's specifications, SRCC OG 300 rating, and SEF for either gas or electric (or equivalent ratings) for solar water heating system installed in building.	--																			
<table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Table 704.3.2.1 Solar Hot Water Systems</caption> <thead> <tr> <th>SEF - Electric Tank</th> <th>SEF - Gas Tank</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>1.30 - 1.50</td> <td>0.85 - 1.00</td> <td>8</td> </tr> <tr> <td>1.51 - 1.80</td> <td>1.01 - 1.20</td> <td>11</td> </tr> <tr> <td>1.81 - 2.30</td> <td>1.21 - 1.50</td> <td>14</td> </tr> <tr> <td>2.31 - 3.00</td> <td>1.51 - 2.00</td> <td>17</td> </tr> <tr> <td>≥3.01</td> <td>≥2.01</td> <td>20</td> </tr> </tbody> </table>							SEF - Electric Tank	SEF - Gas Tank	Points	1.30 - 1.50	0.85 - 1.00	8	1.51 - 1.80	1.01 - 1.20	11	1.81 - 2.30	1.21 - 1.50	14	2.31 - 3.00	1.51 - 2.00	17	≥3.01	≥2.01	20
SEF - Electric Tank	SEF - Gas Tank	Points																						
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≥3.01	≥2.01	20																						
704.3.3 704.3.3.1	<p>Additional renewable energy options Photovoltaic panels are installed.</p> <p style="text-align: center;">Enter number of watts DC of the rated PV system: <input type="text"/></p>	1 point per 100 watts	0	Manufacturer's literature or installer certification showing number of watts produced by installed PV panels. See Products																				
704.3.3.2	<p>Other on-site renewable energy source is installed (e.g., wind energy, on-site micro-hydro power, active solar space heat, etc.)</p> <p style="text-align: center;">Enter number of watts of the system: <input type="text"/></p>	1 point per 200 watts	0	Manufacturer's literature with capacity of installed renewable energy source.	--																			
704.4	<p>Ducts NOTE: If points claimed for both 704.4.2 AND 704.4.3, points cannot be claimed for 704.4.1, 704.4.4, or 704.4.5.</p>																							
704.4.1	Duct system is sized, designed, and installed in accordance with ACCA Manual D or equivalent.	5		Manual D output report and duct layout showing supply and return sizes.	--																			
704.4.2	Space heating is provided by a system that does not include air ducts.	15		None.	--																			
704.4.3	Space cooling is provided by a system that does not include air ducts.	15		None.	--																			
704.4.4	<p>Ductwork is in accordance with ALL of the following: (1) Building cavities are not used as return ductwork. (2) Heating and cooling ducts and mechanical equipment are installed within the conditioned building space. (3) Ductwork is not installed in exterior walls. NOTE: If points claimed for 704.4.4, points cannot be claimed for 903.6(2).</p>	12		None.	--																			
704.4.5	Return ducts or transfer grilles are installed in every room with a door. This practice does not apply to bathrooms, kitchens, closets, pantries, & laundry rooms.	5		None.	--																			
704.5	HVAC design and installation																							

Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes
704.5.1 BC	ACCA Manual S (or equivalent) is used to select heating and/or cooling equipment.	1		Manual S or equivalent output report showing recommended heating and cooling equipment.	--	
704.5.2 BC	HVAC contractor and service technician are certified by a nationally or regionally recognized program (e.g., North American Technician Excellence, Inc. [NATE], Building Performance Institute [BPI], Radiant Panel Association, or manufacturers' training program).	1		Evidence of both contractor's and technician's certification by NATE, BPI, RPA, or manufacturer's training program.	--	
NOTE: Specify certification program (NATE, BPI, RPA, or a manufacturer's training program) in the Additional Info box below.						
Additional Info:						
704.5.3	Performance of the heating and/or cooling system is verified by the HVAC contractor in accordance with ALL of the following: (1) Start-up procedure is performed in accordance with the manufacturer's instructions. (2) Refrigerant charge verified by super-heat and/or sub-cooling method. (3) Burner is set to fire at input level listed on nameplate. (4) Air handler setting/fan speed is set in accordance with manufacturer's instructions. (5) Total airflow is within 10% of design flow. (6) Total external system static does not exceed capability at rated flow.	3		Signed start-up report that documents all 6 of the required items. Include performance test results to support 5 and 6.	--	
NOTE: Specify name of person or company verifying performance in the Additional Info box below.						
Additional Info:						
704.5.4	HVAC equipment operates using an alternative refrigerant containing no HCFCs (hydrochlorofluorocarbons).	1		Documentation by HVAC contractor of refrigerant used in system.	--	
NOTE: Points for 704.5.4 not available after January 20, 2010.						
704.5.5	Manufacturer's label or printed specifications for sealed air handler (except furnaces) indicates the leakage is less than or equal to 2% of design airflow at a pressure of 1-inch w.g. (1250 Pa). Air handlers are tested with inlets, outlets, and condensate drain ports sealed, and filter box in place.	4		Manufacturer's specification showing air handler leakage at less than 2% of the design airflow.	--	
704.6	Installation and performance verification.					
704.6.1 BC	Third-party on-site inspection is conducted to verify compliance with all of the following, as applicable. Minimum of two inspections are performed. One inspection after insulation is installed and prior to being covered, and another inspection upon completion of the project. Where multiple buildings or dwelling units of the same model are built by the same builder, a representative sample inspection of a minimum of 15% of the buildings or dwelling units is permitted. (1) Ducts are installed in accordance with the ICC IRC or IMC and ducts are sealed. (2) Building envelope air sealing is installed. (3) Insulation is installed in accordance with 703.1.2. (4) Windows, skylights, and doors are flashed, caulked, and sealed in accordance with manufacturer's recommendations and in accordance with Section 703.2.1.	5		Signed 3rd party inspection of all 4 required areas at rough and final inspections.	--	
704.6.2	Third-party testing is conducted to verify performance.					
704.6.2.1	Building envelope leakage rate is demonstrated by blower door test. In addition to the test, the following practices are required: (1) Whole building ventilation is provided in accordance with Section 902.2. (2) Fossil fuel furnace & water heater is sealed combustion/power vented per 901.1. (3) Fireplaces and fuel-burning appliances are in accordance with Section 901.2. (4) The maximum leakage rate is in accordance with one of the following Claim points for only one from (a)-(e) below:					
	(a) 5 ACH50	3		Blower test results by qualified 3rd party to support claimed points. See Products		
	(b) 4 ACH50	6				
	(c) 3 ACH50	9				
	(d) 2 ACH50	12				
	(e) 1 ACH50	15				
NOTE: Practice 901.1.1 must be addressed to claim points for 704.6.2.1. Specify name of person or company conducting blower door test in the Additional Info box below.						
Additional Info:						
704.6.2.2 BC	The entire central HVAC duct system, including air handlers and register boots, is tested for leakage at a pressure differential of 0.1 inches w.g. (25 Pa). The maximum leakage as a percent of the system design flow rate is in accordance with one of the following conditions. Claim points for only one from (1)-(3) below:					
	(1) 6% for ductwork entirely outside the building's thermal envelope	15		Duct leakage test results by qualified technician to support claimed points.		
	(2) 6% for ductwork entirely inside the building's thermal envelope	5				
	(3) 6% for ductwork both inside and outside the building's thermal envelope	15				
NOTE: Specify name of person or company conducting leakage test in the Additional Info box below.						
Additional Info:						
704.6.2.3	Balanced HVAC airflows are demonstrated by flow hood or other acceptable flow measurement tool. Test results are in accordance with ALL of the following: (1) Measured flow at each supply and return register is within 25% of design flow. (2) Total airflow is within 10% of design flow.	8		Start up report signed by qualified HVAC technician showing design and actual flows at each supply and return indicating compliance with balanced flow requirement.	--	
NOTE: Specify name of person or company conducting HVAC airflow test in the Additional Info box below.						
Additional Info:						
705 - Innovative Practices						
705.1	Energy consumption control. A whole building or whole dwelling unit device is installed that controls or monitors energy consumption. Claim points for all that apply from (1)-(3) below (7 points max.):	7 points max.	0			
	(1) programmable communicating thermostat	2		Manufacturer's product specification.		
	(2) energy-monitoring device	4				
	(3) energy management control system	7				
705.2	Renewable energy service plan. Renewable energy service plan is provided as follows. Claim points for all that apply from (1)-(2) below:					

Practice #	Chapter 7: Energy Efficiency	Points Available	Points Claimed	Required Documentation	Approved Products	Notes
(1)	Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service. The builder's local administrative office has renewable energy service.	2		Evidence (e.g., utility bills) builder has selected renewable energy service for both construction and local office for temporary electric service during construction.		
(2)	The buyer of the building selects a renewable energy service plan provided by the utility prior to occupancy of the building.	5		Evidence (e.g., utility bills or service agreement) that owner has selected renewable energy service plan for permanent service after completion.		