



Michigan Commercial Buildings

Michigan has adopted ASHRAE 90.1-2013 with state specific amendments for commercial buildings in the state. This checklist provides a guide for key requirements in the energy code for commercial buildings.

While this checklist doesn't include every requirement for commercial new construction in Michigan, it serves as a helpful guide for professionals as they seek or verify compliance with the state commercial energy code. Please refer to the state's published energy code and ASHRAE 90.1-2013 for complete documentation of all requirements and consult your local code official for questions and clarification. You can purchase a copy of the code online at: <http://bit.ly/MICodeBooks>

Energy Code Compliance

Determine Compliance Method: All mandatory requirements must be met in addition to requirements for selected compliance path.

<input type="checkbox"/> Prescriptive Method (Sections 5-8)	Must meet all mandatory requirements in sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4, and meet all prescriptive requirements. Include on plan: R- values, U-factors, SHGC, Fenestration Schedules and Typical Exterior Wall Details
<input type="checkbox"/> Energy Cost Budget Method (Section 11)	Must meet all mandatory requirements in sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4 and provide energy cost budget and design energy cost to show Design Energy Cost \leq Energy Cost Budget, list of energy-related features, and reports (input and output) from simulation program
<input type="checkbox"/> Simplified Approach (HVAC only) (Section 6.3)	If the building is 2 stories or less, with a floor area less than 25,000 ft ² , and all HVAC systems meets the criteria listed in 6.3.2, then the simplified approach may be used for compliance with HVAC requirements.

Code Requirements

Code Section	
Plan Review	
4.2.2	Plans and/or specifications must provide all information necessary for compliance determination, including Envelope, Lighting, Mechanical, and Service Hot Water. For buildings with vertical fenestration area >40% or skylight area > 3%, Energy Cost Budget Method is required

Code Section	Requirement	Remarks
Building Envelope		
5.4.3.1	The entire building envelope is designed and constructed with a continuous air barrier	
5.5.3.1	Roof Insulation. Comply with Tables 5.5-1 through 5.5-8. Comply with Solar Reflectance and Thermal Emittance requirements	
5.5.3.2	Above-grade wall insulation. Comply with Tables 5.5-1 through 5.5-8	
5.5.4	Compliance with U-factors, SHGC, and VT/SHGC shall be demonstrated. Gross wall and roof areas shall be calculated separately. Skylights generally required for >15 ft high spaces under roof and \geq 2,500 ft ²	

COMMERCIAL ENERGY CODE

Code Section	Requirement	Remarks
Heating, Ventilating, and Air Conditioning (HVAC)		
6.4.3.7	Freeze protection and snow/ice melting system sensors installed with automatic controls per 6.4.3.7	
6.4.1.4 6.4.2.1	HVAC heating and cooling loads are calculated per standard 183 and equipment is sized properly. HVAC equipment and heating/cooling efficiency independently verified (see exceptions 6.4.1.4)	
6.4.3.4.2 Table 6.4.3.4.3	All outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and comply with maximum leakage rates	
6.4.3.8	Demand control ventilation (DCV) required for spaces larger than 500 ft ² and with a design occupancy for ventilation of ≥ 25 people per 1000 ft ² of floor area	
6.5.1.1	Air economizers meet the requirements for design capacity, control signal, and high-limit shut-off	
6.5.3.1.1	Each HVAC system at fan system design conditions shall not exceed the allowable fan system motor nameplate hp or fan system bhp as shown in table 6.5.3.1-1	
6.5.3.2.3	Reset static pressure set point for Direct Digital Controls (DDC) controlled VAV boxes reporting to central controller based on the zones requiring the most pressure	
6.5.6	Each fan system shall have an energy recovery system when the system's supply airflow rate exceeds the values listed in tables 6.5.6.1-1 and 6.5.6.1-2. Energy recovery systems shall have at least 50% energy recovery effectiveness.	
Service Water Heating		
7.4.3	Service Hot Water Piping is insulated in accordance with Section 6, Table 6.8.3-1	
Lighting		
9.4.1.1(e) & (f)	Automatic daylight responsive controls for areas where lighting power input is ≥ 150W	
9.4.1.1 (g) & (h)	All lighting shall have automatic controls with either partial or full shut-off	
9.2.2.3	Interior lighting power allowance meets either Building Area Method or Space-by-Space Method requirements. Demonstrate proposed watts ≤ allowed watts	
9.4.2	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are ≤ allowed watts	
Commissioning		
9.4.3 6.7.2.4	HVAC systems and lighting controls tested to ensure control elements are calibrated, adjusted, programmed and in proper working order	