



City of Prospect Heights

Department of Building & Zoning
8 North Elmhurst Road, Prospect Heights Illinois, 60070-6070
Office: 847/398-6070 x 211-FAX: 847/590-1854-www.prospect-heights.il.us

ENERGY CONSERVATION GUIDELINE

(Disclaimer: This guide is may not be all inclusive, additional regulations may apply) Edited 5-2013

RESIDENTIAL

PERMIT SUBMITTAL REQUIREMENTS:

- Completed application
- Submit a copy of the approved passing Res-Check Certificate. Provide a signed and stamped copy from the design professional to ensure that the structure complies with the International Energy Code. Refer to www.energy.gov
- Construction documents shall contain (R103)(if/when applicable)
 - Equipment Sizing (R403.6)
Provide a copy of the heating and cooling sizing in accordance with ACCA Manual S and Building loads calculated in accordance with ACCA Manual J.
 - Insulation Details:
Provide Insulation material and their R-Values,
Provide: Fenestration U-factors,
Provide one copy of: SHGC's area-weighted U-factor,
Provide one copy of: SHGC calculations
 - Mechanical system Design
Provide: mechanical and service water heating systems & eq. Types, sizes, & efficiencies
Provide: Economizer descriptions
Provide equipment and system controls
Provide fan motor hp,
 - Duct Sealing/Pipe insulation detail.
Provide: Duct and pipe insulation size and location
 - Lighting Fixtures
Provide fixture schedule w/ wattage and control narrative (R505.2.)

GENERAL REQUIREMENTS: (not all inclusive)

Residential

PERSCRIPTIVE PACKAGE

Unless performance based, the prescriptive insulation value is as follows:

Ceilings shall have an R-48.

Windows shall have a U.32.

Slabs shall have a R10, 2'.

Crawlspaces shall have R-15/19.

Floors shall have R-49.

Walls shall have an R-20 or R-13 continuous w/ a plus R-5 on the exterior or interior of the home.

Basement Walls shall have an R-15 continuous on the exterior or interior or an R-19 cavity

Ducts shall have a minimum of an R-8.

FIREPLACES:

Wood-burning fireplaces shall have tight fitting dampers (402.4.2)

Gasketed Doors are required (402.4.3)

AIR LEAKAGE (R402.4)

All outdoor air intakes and exhausts shall have gravity dampers (R403.5)

Ducts shall be sealed with welds and/or spray foam (R403.4.2)

Ductwork If any part of the HVAC system is outside the envelope including ductwork, a pressure test (air-leakage rate less than 4cfm per 100sf) shall be performed by an approved third-party agency and their approved inspection reports shall be available for the inspector upon the insulation inspection.

SYSTEM CONTROLS (R403.)

The system shall have programmable thermostats.

HEATED WATER PIPES

- Shall have an insulation with an R-value based upon the pipe sizing (R403.4.2)
- Circulating systems shall have an on/off switch.

POSTING OF CERTIFICATES

- An Attic Insulation Certificate shall be prepared by the installer, signed, dated, depicting the R-value and posted in the attic affixed to the roof rafters every 300 feet, posted prior to the insulation inspection.
- An additional Insulation Certificate shall be prepared by the installer, signed, dated, depicting the entire homes R-and U Values of the walls, windows, doors and ducts, efficiencies of the HVAC system. This certificate shall be posted at/near the electric service panel.
- Only new homes shall have a whole house pressure test (resulting in <3 air changes per hour) performed by an approved third-party agency. Their approved inspection reports shall be available for the City inspector upon the final inspection.

APPLICABLE CODES:

State of Illinois Energy Conservation Code/ICC Energy Code 2012, www.intlcode.org
The established climate is ZONE 5. See table R301.1.

INSPECTION REQUIREMENTS:

- **Insulation inspection** prior to concealment
- **Ductwork inspection** if any part of the HVAC system is outside the envelope including ductwork, a pressure test (air-leakage rate less than 4cfm per 100sf) shall be performed by an approved third-party agency and their approved inspection reports shall be available for the inspector upon the insulation inspection.
- **Final Energy Inspection:**
 - Insulation certificates shall be posted in the attic and at the electric service panel. Their approved inspection reports shall be available for the inspector upon the final inspection.
 - Only new homes shall have a whole house pressure test (resulting in <5 air changes per hour) performed by an approved third-party agency. Their approved inspection reports shall be available for the City inspector upon the final inspection.
- Call 847-398-6070 x 211 to schedule an inspection

COMMERCIAL

PERMIT SUBMITTAL REQUIREMENTS:

- Completed application
- Submit a copy of the approved passing Com-Check Certificate. Provide a signed and stamped copy from the design professional to ensure that the structure complies with the International Energy Code. Refer to www.energy.gov
- Construction documents shall contain (C303)(if/when applicable)
 - Equipment Sizing (C303)
Provide a copy of the heating and cooling sizing in accordance with ACCA Manual S and Building loads calculated in accordance with ACCA Manual J.
 - Insulation Details:
Provide Insulation material and their R-Values,
Provide: Fenestration U-factors, (402.3)
Provide one copy of: SHGC's area-weighted U-factor,
Provide one copy of: SHGC calculations
 - Mechanical system Design(C403)
Provide: mechanical and service water heating systems & eq. Types, sizes, & efficiencies
Provide: Economizer descriptions (C403.3.1)
Provide equipment and system controls
Provide fan motor hp
 - Duct Sealing/Pipe insulation detail(C403.7)
Provide: Duct and pipe insulation size and location
 - Fenestration/ Lighting Fixtures
Provide fixture schedule w/ wattage and control narrative (C102.3)

GENERAL REQUIREMENTS (not all inclusive)

LIGHTING (C402.3):

- Daylight Zone Controls: Interior lights are to be designed and installed in comparison to how much and where exterior sunlight enters the building.
- Tandem wiring: Interior spaces shall be wired in half w/ separate controls.
- Time switch control: Interior spaces shall have motion detectors to turn on lights.

VESTIBULE (C402.4.7):

- Spaces 3,000 sf or more require a vestibule, See the Illinois accessibility code for sizing.

AIR LEAKAGE ((C403.7)

- Ducts and plenums shall be sealed with a minimum of an R-6 in unconditioned spaces and R-8 where located in the outside.

HEATED WATER PIPES (C403.2.8)

- Shall have an insulation with an R-value based upon the pipe sizing in chart 403.2.8.

POOLS(C404.7)

- Pools that are heated required timed switches, on-off switches and covers

APPLICABLE CODES:

State of Illinois Energy Conservation Code/ICC Energy Code 2012, www.intlcode.org
The established climate is ZONE 5. See table R301.1.

INSPECTION REQUIREMENTS:

- **Insulation inspection** prior to concealment, **Ductwork inspection**

- Call 847-398-6070 x 211 to schedule an inspection