

## **COMMERCIAL PLAN REVIEW**

### **Roofing Permit Guide**

To facilitate review and approval please provide the following information at time of application:

- Completed building permit application, including scope of work (re-roof, roof over, partial roof, full roof, etc.)
- Description of the roofing system, including roof slope, roof substrate, roofing manufacturer's standard details and specifications, underlayment, and insulation if applicable – see chart below.
- Aerial map can be used in lieu of a roof plan to show the existing condition. All new rooftop equipment shall be accompanied by P.E. sealed drawings.

The following codes are currently in effect, whether or not the design professional has identified them on the plans:

- 2018 International Building Code, with Georgia Amendments
- 2018 International Residential Code, with Georgia Amendments
- 2018 International Mechanical Code, Edition, with Georgia Amendments
- 2018 International Plumbing Code, Edition, with Georgia Amendments
- 2018 International Fuel Gas Code, Edition, with Georgia Amendments
- 2018 International Fire Code, Edition, with Georgia Amendments
- International Energy Conservation Code, 2015 Edition, with Georgia Supplements and Amendments
- NFPA National Electrical Code, 2017 Edition
- 2018 NFPA 101 Life Safety Code with all Georgia State Amendments
- Georgia Accessibility Code Chapter 120-3-20, as amended 2010 ADA Standards for Accessible Design

**Additional Information to be verified with the construction documents.**

REFER TO THE FOLLOWING SECTIONS OF IBC 2018 CHAPTER 15 “ROOF ASSEMBLIES AND ROOFTOP STRUCTURES” and CHAPTER 16 “STRUCTURALL DESIGN”

1502 - Roof drainage –	1510.7 – Photovoltaic panels and modules
1503.5 - Crickets and saddles –	1508 – Roof insulation –
1504 – Performance Requirements	1509 – Radiant Barriers Installed Above Deck–
1505 – Fire Classification –	1510 – Rooftop Structures –
1505.9 – Rooftop mounted photovoltaic panel systems	1511 – Reroofing –
1506 – Materials –	1603.1.8 – Special loads
1507 – Requirements for Roof Coverings –	1607.13.5 – Photovoltaic panel systems
	3111.3 - Photovoltaic panel systems

**1505.9 Rooftop mounted photovoltaic panel systems.**

Rooftop rack-mounted photovoltaic panel systems shall be tested, listed and identified with a fire classification in accordance with UL 1703 and UL 2703. The fire classification shall comply with Table 1505.1 based on the type of construction of the building.

**1510.7.1 Fire classification.**

Rooftop-mounted photovoltaic panels and modules shall have the fire classification in accordance with Section 1505.9.

**1510.7.2 Photovoltaic panels and modules.**

Rooftop-mounted photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703 and shall be installed in accordance with the manufacturer's instructions.

**1511.2 Structural and construction loads.**

Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

**1511.3 Roof replacement.**

Roof replacement shall include the removal of all existing layers of roof coverings down to the roof deck.

**Exception:** Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 1507.

**1511.3.1 Roof recover.**

The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.

2. Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
3. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 1511.4.
4. The application of a new protective roof coating over an existing protective roof coating, metal roof panel, built-up roof, spray polyurethane foam roofing system, metal roof shingles, mineral-surfaced roll roofing, modified bitumen roofing or thermoset and thermoplastic single-ply roofing shall be permitted without tear off of existing roof coverings.

**1511.3.1.1 Exceptions.** A roof recover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is slate, clay, cement, or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

**1511.4 Roof recovering.** Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

**1511.5 Reinstallation of materials.** Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked, or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars, and metal counterflashings shall not be reinstalled where rusted, damaged, or deteriorated. Aggregate surfacing materials shall not be reinstalled.

**1511.6 Flashings.**

Flashings shall be reconstructed in accordance with *approved* manufacturer's installation instructions. Metal flashing to which bituminous materials are to be adhered shall be primed prior to installation. (See IBC section 1507.2 for Asphalt Shingles application)

**1507.2.8.3 Drip edge.**

A drip edge shall be provided at eaves and rake edges of shingle roofs. Adjacent segments of the drip edge shall be lapped not less than 2 inches (51 mm). The vertical leg of drip edges shall be not less than 1-1/2 inches (38 mm) in width and shall extend minimum of not less than 1/4 inch (6.4 mm) below sheathing. The drip edge shall extend back on the roof not less than 2 inches (51 mm). Underlayment shall be installed over drip edges along eaves. Drip edges shall be installed over underlayment along rake edges. Drip edges shall be mechanically fastened *at* intervals not greater than 12 inches (305 mm) on center.

**1603.1.8.1 Photovoltaic panel systems.**

The dead load of rooftop-mounted photovoltaic panel systems, including rack support systems, shall be indicated on the construction documents.

**Refer to: IECC 2015 – Table C402.1.3 – Opaque Thermal Envelope Insulation Component Min. Requirements, R-Value Method<sup>a</sup> & Max. U-Factor Method from Table C402.1.4**

Climate Zone: 3A for DeKalb County Georgia		
Roofs	All other	Group R
Insulation entirely above deck	U-0.039 or R-25ci	U-0.039 or R-25ci
Metal Buildings	U-0.035	U-0.035
Metal Buildings <sup>b</sup>	R-19 + R-11 LS	R-19 + R-11 LS
Attic and other	U-0.027 or R-38	U-0.027 or R-38

**ci** = Continuous insulation.

**LS** = Liner system

**a.** Assembly descriptions can be found in ANSI/ASHRAE/IESNA Appendix A

**b.** Where using R-value compliance method, a thermal spacer block shall be provided, otherwise use the U-factor compliance method in Table C402.1.4

**C402.2.2 Roof assembly.** The minimum thermal resistance (*R*-value) of the insulating material installed either between the roof framing or continuously on the roof assembly shall be as specified in Table C402.1.3, based on construction materials used in the roof assembly. Skylight curbs shall be insulated to the level of roofs with insulation entirely above deck or R-5, which is less.

**Exception:**

1. Continuously insulated roof assemblies where the thickness of insulation varies 1 inch (25 mm) or less and where the area-weighted *U*-factor is equivalent to the same assembly with the *R*-value specified in Table C402.1.3.
2. Where tapered insulation is used with insulation entirely above deck, the *R*-value where the insulation thickness varies 1 inch or less from the minimum thickness of tapered insulation shall comply with the *R*-value specified in Table C402.1.3
3. Unit skylight curbs included as a component of a skylight listed and labeled in accordance with NFRC 100 shall be required to be insulated.

Insulation installed on a suspended ceiling with removable ceiling tiles shall not be considered part of the minimum thermal resistance of the roof insulation.

**C503.3.1 Roof Replacement**

Roof replacements shall comply with Table C402.1.3 or C402.1.1 (Low-energy buildings) where the existing roof assembly is part of the building thermal envelop and contains insulation entirely above the roof deck.