



CRCA POSITION STATEMENT
ROOF MEMBRANE PEEL AND REPLACEMENT - “PEEL OR NOT TO PEEL”
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Introduction

There are several possible scenarios where Roof Membrane Peel and Replacement, referenced below in this document from the Codes, might or might not be applicable. Roof Membrane Peel and Replacement is allowed by the State of Illinois Energy Conservation Code, but not listed in the Chicago Building, Energy, or Building Rehabilitation Codes. Therefore, Authority Having Jurisdiction (AHJ) approval is needed prior to construction.

In all cases for roof membrane peel and replacement, the roof assembly must be evaluated to be sure there is no wet insulation in the roof assembly and the roof deck condition is suitable for the roof membrane peel and replacement operation. Where wet, remove and replace. Ensure that code compliance is met through matching the new roof assembly to a listing from FM, UL or other test lab to meet fire and wind resistance ratings for the project. This might not be the same listing as currently exists. The listing must have the same wind resistance, fire-resistance, as is required by the building official. The building official (building code) is sometimes different than the code official (energy code).

ALWAYS get AHJ approval for roof membrane peel and replacement. And, follow the manufacturers installation instructions and assure that the roof assembly configuration conforms to the code required listings from UL, FM, Intertek or other laboratories. The project specific roof covering manufacturer might not allow certain roof membrane configurations.

Technical Considerations - Roof Membrane Peel, if one roof exists:

- **Single Ply ballasted roof**
 - Remove ballast, peel roof membrane, repair any damaged or wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.
- **Single Ply Adhered**
 - Peel or not? Peel, repair any damaged or wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.
- **Single Ply Mechanically Fastened**
 - Cut at seams, peel, repair any damaged or wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.
- **Built up roof**
 - Peel BUR, repair any damaged or wet insulation, install new membrane to manufacturers installation instructions and the listing.
- **Modified bitumen**
 - Peel, repair any damaged or wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.



Technical Considerations - Roof Membrane Peel and Replacement, when two roofs exist:

In all cases, the roof assembly must be evaluated to be sure there is no wet insulation in the roof assembly and the roof deck condition is suitable for the roof membrane peel and replacement operation. Where wet, remove and replace. Ensure that code compliance is met through matching the new assembly to a listing from FM, UL or other test lab to meet fire and wind resistance ratings for the project. This might not be the same listing.

Since peeling a top layer of a roof with two membranes on top is not part of the roof peel and replacement definition, it needs to be approved by the code official/AHJ before starting this operation. And, ALWAYS follow the Manufacturers Installation Instructions and the code required listing and be sure to meet the listing requirements for compliance. In addition, the Project Specific Manufacturer might not allow certain operations such as roof membrane peel and replacement.

NOTE: Verify with the building code official that this falls into the 'peel and replace' category and is not a roof replacement situation where a complete tear off is required.

- **Single Ply ballasted roof**
 - Remove ballast, peel top roof membrane, repair any damaged or wet membrane that will remain, repair any wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.
- **Single Ply Adhered**
 - Remove ballast, peel top roof membrane, repair any damaged or wet membrane that will remain, repair any wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.
- **Single Ply Mechanically Fastened**
 - Cut at seams, peel, repair any damaged or wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.
- **Built up roof**
 - Peel BUR, repair any damaged or wet insulation, install new membrane to manufacturers installation instructions and the listing.
- **Modified bitumen**
 - Peel, repair any damaged or wet insulation, prepare surface and install new membrane to manufacturers installation instructions and the listing.

FOR MORE INFO, VIEW THE RESOURCES PAGES AT WWW.CRCA.ORG, OR EMAIL INFO@CRCA.ORG .

CRCA 03-2020; Approved 3/4/2020



Below are the International Building Code Sections – Chapter 1511 – Reroofing, and the Illinois Amendments to the 2018 International Energy Conservation Code, Chicago sections, for convenience

Illinois Commercial Energy Code, new text is underlined.

SECTION C503

CRCA NOTE: In the state of Illinois Energy Conservation Code, the roof membrane peel and replacement is allowed. CRCA recommends following the Manufacturers Installation Instructions and listings required by the International Building Code. While many seem to focus on International Energy Conservation Code compliance, the structure still needs to be built in accordance with the IBC and the International Fire Code.

NEW ILLINOIS DEFINITION: ROOF MEMBRANE PEEL AND REPLACEMENT. *Where an existing weather resisting roof membrane alone is removed, exposing insulation or sheathing and only a new weather resisting roof membrane is installed.*

CHAPTER 5 [CE] EXISTING BUILDINGS SECTION C503 - ALTERATIONS

C503.1 General. *Alterations to any building or structure shall comply with the requirements of Section C503 and the code for new construction. Alterations shall be such that the existing building or structure is not less conforming to the provisions of this code than the existing building or structure was prior to the alteration. Alterations to an existing building, building system or portion thereof shall conform to the provisions of this code as those provisions relate to new construction without requiring the unaltered portions of the existing building or building system to comply with this code. Alterations shall not create an unsafe or hazardous condition or overload existing building systems.*

Alterations complying with ANSI/ASHRAE/IESNA 90.1. need not comply with Sections C402, C403, C404 and C405.

Exceptions: *The following alterations need not comply with the requirements for new construction, provided the energy use of the building is not increased:*

6. Roof Membrane Peel and Replacement

[2018 Illinois Energy Code Section C503.1, Excerpts]

Chicago 2016 Code Memorandum, with new text underlined.

CRCA NOTE: The 2016 Chicago Memorandum has an exception that allows the use of an operation called ‘*Roof Covering Replacement*’. This is the same concept as the ‘Roof Membrane Peel and Replacement’, which is mentioned in the Illinois Adoption of the International Energy Conservation Code.

In Chicago’s August 2020 Adoption of the 2018 International Energy Conservation Code, this definition did not make it into the document. Therefore, CRCA recommends submitting for a variance to the Chicago Building Department if this type of operation is chosen by the building owner and manager.



Definition, Chicago 2016 Memorandum:

ROOF COVERING REPLACEMENT: *Where an existing roof covering is removed, exposing insulation or sheathing and a new roof covering installed. This occurs typically in ballasted single ply roof systems, lengthens the life of the insulation in serviceable condition, and is allowed where the energy usage of the building does not increase.*

[REF 2016 Chicago Memorandum – Roof Requirements]

2018 International Building Code - SECTION 1511 – REROOFING

CRCA NOTE: This section is pasted for convenience. It is the Reroofing section of the IBC. There are three basic operations defined in the IBC.

ROOF REPAIR. *Reconstruction or renewal of any part of an existing roof for the purposes of its maintenance. [IBC 2018 202]*

ROOF RECOVER. *The process of installing an additional roof covering over a prepared existing roof covering without removing the existing roof covering. [IBC 2018 202]*

ROOF REPLACEMENT. *The process of removing the existing roof covering, repairing any damaged substrate and installing a new roof covering. [IBC 2018 202]*

CRCA NOTE: These terms are the only terms used in the International Building Code to describe roofing work at existing buildings. These are the only terms that should be used on construction documents, permits, and proposals to describe the operations.

2018 International Building Code - SECTION 1511 – REROOFING, Continued

1511.1 General. *Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15.*

Exceptions:

1. **Roof replacement or roof recover** of existing low slope roof coverings shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 for roofs that provide positive roof drainage.
2. Recovering or replacing an existing roof covering shall not be required to meet the requirement for secondary (emergency overflow) drains or scuppers in Section 1503.4 for roofs that provide for positive roof drainage. For the purposes of this exception, existing secondary drainage or scupper systems required in accordance with this code shall not be removed unless they are replaced by secondary drains or scuppers designed and installed in accordance with Section 1503.4.

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 counter flashings 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. **[IBC 2018 Chapter 15, Section 1511, emphasis added]**

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