SAFEbuilt®

Building Guides for Homeowners

2012 IRC Residential Re-roofing

What you need to apply for a building permit:

☐ Permit Application	

PREP CHECKLIST

For the successful installation and longevity of your new roof:

Roof Sheathing Preparation (for complete tear offs):

- The roof sheathing must provide a rigid surface.
- Repair or replace all boards or sheathing which are warped, cracked or delaminated between supports.

Underlayment (for complete tear offs):

- Apply new, minimum 15# asphalt saturated felt underlayment on a Dry Deck.
- For roofs with slopes of 4:12 or greater, one layer of underlayment is required. For roofs with slopes between 2:12 and 4:12, 19" laps of underlayment is required, starting with a 19" strip, then full sheets.

Fasteners (for all roofs):

- Fasters must be long enough to penetrate through the total thickness of the roofing and a minimum of 3/4" into the decking material.
- For open soffits, contact the building department.
- Nails must not be over or under driven, the head must be flush with the shingle surface and located per the packet instructions. Nails must be driven in perpendicular to the roof surface.

Frequently Asked Questions:

1. **Why do I need a permit to re-roof my house?**
   Your permit allows the building department to inspect for potential hazards and unsafe construction. By ensuring that your project meets the minimum building code standards of safety, the building department can reduce the risk of fire, structural collapse and other issues that might result in costly repairs, injuries and even death. Inspections complement the contractor's experience and act as a system of checks and balances that can result in a safer project.
2. **May I, as the owner, do the re-roof myself?**
   Yes.
3. **Will my roof be inspected?**
   Yes, the permit holder must call for a Final Roof inspection. There may be a mid-roof inspection required, please consult the Building Department when you receive your permit.
4. **How many layers of roofing are allowed?**
   No more than two (2) layers are allowed upon completion of installation
5. **May nail guns be used?**
   If properly adjusted and used correctly, a nail gun is allowed.
6. **What should be done with existing roof jacks and vents?**
   These must be replaced if they are in poor condition, badly rusted or otherwise deteriorated.
7. **Are there other requirements?**
   If your neighborhood has a Homeowners Association, we advise you contact them prior to making any changes to your roof covering materials.

Tips on hiring contractors

- Hire only licensed contractors
- Get at least 3 bids.
- Get 3 references, and ask to see a project.
- Get it in writing, but before you sign the contract, make sure you completely understand.
- Do not make final payment until you have received a Certificate of Completion (CC) or until final inspection has passed.
- **Have the contractor apply for the required permits.**

Residential Codes

SECTION R806: ROOF VENTILATION

R806.1 Ventilation Required. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion resistant wire mesh with 1/16" (1.6 mm) minimum to 1/4" (6 mm) maximum openings.

R806.2 Minimum Area. The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted, provided that at least 40 percent and not more than 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) below the ridge or highest point of the space with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a vapor barrier having a transmission rate not exceeding 1 perm (5.7×10^{-11} kg/s - m^2 - Pa) is installed on the warm-in-winter side of the ceiling.

R806.3 Vent and Insulation Clearance. Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1" (25 mm) space shall be provided between the insulation and the roof sheathing and the location of the vent.

SECTION R907: REROOFING

R907.3 Re-covering versus Replacement. New roof coverings shall not be installed without first removing all existing roof coverings where any of the following conditions occur: (Some exceptions may apply to your situation)

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 wood shake, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

If re-roofing over wood shingle, or wood shake roofs, additional code requirements may apply. Please see IRC Sections R905 and R907, or ask your building department for details.

Additional Information

The purpose of this guide is to assist you in the permitting process. This handout is intended to cover information for a basic plan submittal and typical project under the building codes. It is not intended to cover all circumstances. Depending on the scope and complexity of your project, additional information may be required. Discuss your project with building department staff to determine if it is subject to additional requirements.

How do I schedule a required Inspection?

Please call **the inspection line listed on your permit card** and leave all information requested in the message.

Want to know more? Need more help?

We hope you found the information in this guide useful.
If you have any questions, please contact us.

Roofing Materials & Requirements

Shakes and Wood Shingles

- Felt interlace on shakes shall be 18" type 30 installed at twice the weather exposure of the material.
- Install type 30 felt under hip and ridge.
- Replace any damaged or rusted metal.
- Starter course at eaves shall be doubled.
- Minimum shake width of 4" required.
- Offset gaps from course to course with a minimum of 1 1/2" side lap.
- Provide a 1/4" to 3/8" gap for shingles.
- Provide a 3/8" to 5/8" gap for shakes.
- Step flashing must be interlaced at roof to sidewall junctions.
- Raise flashing at jacks vents and sidewall junctions.
- For hip and ridge caps double the first cap and alternate the overlaps. 10" exposure for 24" shakes and 71/2" for 18".
- A minimum 1 1/2" edge and 1" eave overhand is required. Two fasteners per shake/shingle 1" in from edge 2" up from exposure line.
- Shakes/shingles in valleys must be angle cut.
- Limit the number of exposed fasteners.
- Defective shakes, i.e. bark, knots, curling and thin areas are not permitted.

3 Tab or Laminate Shingles

- Asphalt shingles are not permitted on roofs with a slope of less than 2 in 12.
- A cricket or saddle shall be installed on the ridge side of any chimney greater than 3" wide.
- A starter course with factory adhesive at the eave line or a manufactured starter with a tar sealant is required.
- Fasten with 4 nails per strip shingle and 6 nails in high wind areas. Do not nail into the factory applied adhesive. Locate fasteners per manufacturer's instructions.
- Drip edge is required around entire perimeter of roof.
- A 5" maximum exposure is allowed.
- There should be no tab offset joints closer than 4" between adjacent rows.
- A maximum 5" exposure for hip and ridge caps is allowed.
- Raise all roof jacks and vents so that shingles are underneath the lower edge of the flange—shingle over the top and sides at least past the point of roof penetration. Fasten down the lower edge.
- At roof to vertical junctions, shingle under the flashing.
- At sidewall junctions, provide sealant

unless the re-roof is a tear off, then re-interlace with step flashing.

- An edge and eave overhang of 3/8" - 1/2" is required.
- Closed, woven or open valleys must be properly installed.
- Replace any damaged or rusted metal.
- Nail heads must be flush with shingle surface, not penetrating the shingles or above shingle surface.

Interlocking

- A starter course is required.
- Nails and nail placement must be per manufacturer's specifications.
- Raise flashing at all jacks, vents and roof to vertical junctions.
- Hand seal with roofing adhesive or face nail gable and rake edges.
- Hand seal loose tabs at valleys. Closed valleys are not allowed.
- A maximum 5" exposure for hip and ridge caps is allowed.
- An edge and eave overhang of 3/8" - 1/2" is required.

Tile, Metal & Special Roofs

- An engineered analysis of the roof structure is required if the roofing material type exceeds 7.5 pounds per square foot.
- These roofs must be applied as per manufacturer's specifications.
- A mid roof inspection may be required.
- A complete copy of the manufacturer's specifications and installation instructions must be on site and available for the installers and the building inspector.

Rolled Roofing

- Some rolled roofing is allowed for low slope roofs with a pitch as low as 2:12.
- Some rolled roofing may be used on a slope as low as 1:12 if it is installed using the concealed nail method or the double coverage methods as per the manufacturer's installation instructions.
- An edge and eave overhang of 3/8" - 1/2" is required.
- For low slope applications, please contact your Building Department.

Wind Resistance

- Asphalt shingles shall be tested in accordance with ASTM D 7158 & meet the classification requirements of table R 905.2.4.1 (1)