RE-ROOF
B-10

Development Services
Building Division
1635 Faraday Avenue
760-602-2719
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A building permit is required to reroof all buildings when:

Removal of the existing roof is required by

Chapter 15 in the 2013 California Building Code

And

Chapter 9 in the 2013 California Residential Code

When lighter weight roof covering is being replaced with a heavier weight material engineering calculations may be required for the supporting structure.

The attached Supplemental Building Permit Application must be completed in addition to the standard building permit application.

Please note: Combustible roof coverings are prohibited in Carlsbad per the City's adopted Building Code. All roof systems must be a minimum Class A System and the roof covering must be non-combustible.

Required Inspections:

1. Tear Off: This inspection is required for either existing or new sheathing and underlayment prior to installing new roof covering.
2. Final Inspection: When all roof coverings, and flashings are complete.

R906.2 Material standards. Above-deck thermal insulation board shall comply with the standards in Table R906.2.

TABLE R906.2
MATERIAL STANDARDS FOR ROOF INSULATION

Cellular glass board	ASTM C 552
Composite boards	ASTM C 1289, Type III, IV, V or VI
Expanded polystyrene	ASTM C 578
Extruded polystyrene board	ASTM C 578
Perlite board	ASTM C 728
Polyisocyanurate board	ASTM C 1289, Type I or II
Wood fiberboard	ASTM C 208

SECTION R907
REROOFING

R907.1 General. Materials and methods of application used for re-covering or replacing an existing roof covering shall comply with the requirements of Chapter 9.

Exception: Reroofing 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 R905 for roofs that provide positive roof drainage.

R907.2 Structural and construction loads. The 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 roof covering system.

R907.3 Recovering versus replacement. New roof coverings shall not be installed without first removing all existing layers of roof coverings where any of the following conditions exist:

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.

Exceptions:

1. Complete and separate roofing systems, such as standing-seam metal roof 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.
2. Installation of metal panel, metal shingle and concrete and clay tile roof coverings over existing wood shake roofs shall be permitted when the application is in accordance with Section R907.4.
3. The application of new protective coating over existing spray polyurethane foam roofing systems shall be permitted without tear-off of existing roof coverings.
4. 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 R905.

R907.4 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.

R907.5 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. Any existing flashings, edgings, outlets, vents or similar devices that are a part of the assembly shall be replaced when rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled.

R907.6 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.

SECTION R908
SOLAR PHOTOVOLTAIC PANELS/MODULES

R908.1 Photovoltaic systems. *Rooftop mounted photovoltaic shall be designed in accordance with this section.*

R908.1.2 (IBC/CBC 1509.7.1 Not an SFM provision. Reserved for other agencies)

R908.1.3 Fire classification. *Rooftop mounted photovoltaic panels and modules shall have the fire classification as required by Section R902.4.*

R908.1.4 Installation. *Rooftop mounted photovoltaic systems shall be installed in accordance with the manufacturer's installation instructions.*

R908.1.5 Photovoltaic panels and modules. *Photovoltaic panels and modules mounted on top of a roof shall be listed and labeled in accordance with UL 1703 and shall be installed in accordance with the manufacturer's installation instructions.*

R908.1.6 Fire safety provisions for photovoltaic panels/modules. *Solar photovoltaic panels/modules installed upon a roof or as an integral part of a roof assembly shall comply with the requirements of this code (see Section R331) and the California Fire Code.*

TABLE R602.3(1)
FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a, b, c]	SPACING OF FASTENERS
		Roof	
1	Blocking between joists or rafters to top plate, toe nail	3-8d ($2^1/_2$″ × 0.113″)	—
2	Ceiling joists to plate, toe nail	3-8d ($2^1/_2$″ × 0.113″)	—
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3-10d	—
4	Collar tie to rafter, face nail or $1^1/_4$″ × 20 gage ridge strap	3-10d (3″ × 0.128″)	—
5	Rafter or roof truss to plate, toe nail	3-16d box nails ($3^1/_2$″ × 0.135″) or 3-10d common nails (3″ × 0.148″)	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss[j]
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d ($3^1/_2$″ × 0.135″) 3-16d ($3^1/_2$″ × 0.135″)	—
		Wall	
7	Built-up studs-face nail	10d (3″ × 0.128″)	24″ o.c.
8	Abutting studs at intersecting wall corners, face nail	16d (3 ½" x 0.135")	12″ o.c.
9	Built-up header, two pieces with $^1/_2$″ spacer	16d ($3^1/_2$″ × 0.135″)	16″ o.c. along each edge
10	Continued header, two pieces	16d ($3^1/_2$″ × 0.135″)	16″ o.c. along each edge
11	Continuous header to stud, toe nail	4-8d ($2^1/_2$″ × 0.113″)	—
12	Double studs, face nail	10d (3″ × 0.128″)	24″ o.c.
13	Double top plates, face nail	10d (3″ × 0.128″)	24″ o.c.
14	Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d ($3^1/_2$″ × 0.135″)	—
15	Sole plate to joist or blocking, face nail	16d ($3^1/_2$″ × 0.135″)	16″ o.c.
16	Sole plate to joist or blocking at braced wall panels	3-16d ($3^1/_2$″ × 0.135″)	16″ o.c.
17	Stud to sole plate, toe nail	3-8d ($2^1/_2$″ × 0.113″) or 2-16d ($3^1/_2$″ × 0.135″)	— —
18	Top or sole plate to stud, end nail	2-16d ($3^1/_2$″ × 0.135″)	—
19	Top plates, laps at corners and intersections, face nail	2-10d (3″ × 0.128″)	—
20	1″ brace to each stud and plate, face nail	2-8d ($2^1/_2$″ × 0.113″) 2 staples $1^3/_4$″	— —
21	1″ × 6″ sheathing to each bearing, face nail	2-8d ($2^1/_2$″ × 0.113″) 2 staples $1^3/_4$″	— —
22	1″ × 8″ sheathing to each bearing, face nail	2-8d ($2^1/_2$″ × 0.113″) 3 staples $1^3/_4$″	— —
23	Wider than 1″ × 8″ sheathing to each bearing, face nail	3-8d ($2^1/_2$″ × 0.113″) 4 staples $1^3/_4$″	— —
		Floor	
24	Joist to sill or girder, toe nail	3-8d ($2^1/_2$″ × 0.113″)	—
25	Rim joist to top plate, toe nail (roof applications also)	8d ($2^1/_2$″ × 0.113″)	6″ o.c.
26	Rim joist or blocking to sill plate, toe nail	8d (2 ½" × 0.113")	6″ o.c.
27	1″ × 6″ subfloor or less to each joist, face nail	2-8d ($2^1/_2$″ × 0.113″) 2 staples $1^3/_4$″	— —
28	2″ subfloor to joist or girder, blind and face nail	2-16d ($3^1/_2$″ × 0.135″)	—
29	2″ planks (plank & beam - floor & roof)	2-16d ($3^1/_2$″ × 0.135″)	at each bearing
30	Built-up girders and beams, 2-inch lumber layers	10d (3″ × 0.128″)	Nail each layer as follows: 32″ o.c. at top and bottom and staggered. Two nails at ends and at each splice.
31	Ledger strip supporting joists or rafters	3-16d ($3^1/_2$″ × 0.135″)	At each joist or rafter

(continued)

TABLE R602.3(1)—continued
FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER[b, c, e]	SPACING OF FASTENERS	
			Edges (inches)[i]	Intermediate supports[c, e] (inches)
	Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing			
32	$^3/_8$" - $^1/_2$"	6d common (2" × 0.113") nail (subfloor, wall)[j] 8d common ($2^1/_2$" × 0.131") nail (roof)[f]	6	12[g]
33	$^{19}/_{32}$" - 1"	8d common nail ($2^1/_2$" × 0.131")	6	12[g]
34	$1^1/_8$" - $1^1/_4$"	10d common (3" × 0.148") nail or 8d ($2^1/_2$" × 0.131") deformed nail	6	12
	Other wall sheathing[h]			
35	$^1/_2$" structural cellulosic fiberboard sheathing	$1^1/_2$" galvanized roofing nail, $^7/_{16}$" crown or 1" crown staple 16 ga., $1^1/_4$" long	3	6
36	$^{25}/_{32}$" structural cellulosic fiberboard sheathing	$1^3/_4$" galvanized roofing nail, $^7/_{16}$" crown or 1" crown staple 16 ga., $1^1/_2$" long	3	6
37	$^1/_2$" gypsum sheathing[d]	$1^1/_2$" galvanized roofing nail; staple galvanized, $1^1/_2$" long; $1^1/_4$ screws, Type W or S	7	7
38	$^5/_8$" gypsum sheathing[d]	$1^3/_4$" galvanized roofing nail; staple galvanized, $1^5/_8$" long; $1^5/_8$" screws, Type W or S	7	7
	Wood structural panels, combination subfloor underlayment to framing			
39	$^3/_4$" and less	6d deformed (2" × 0.120") nail or 8d common ($2^1/_2$" × 0.131") nail	6	12
40	$^7/_8$" - 1"	8d common ($2^1/_2$" × 0.131") nail or 8d deformed ($2^1/_2$" × 0.120") nail	6	12
41	$1^1/_8$" - $1^1/_4$"	10d common (3" × 0.148") nail or 8d deformed ($2^1/_2$" × 0.120") nail	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 Ksi = 6.895 MPa.

a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.

b. Staples are 16 gage wire and have a minimum $^7/_{16}$-inch on diameter crown width.

c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.

d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.

e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).

f. For regions having basic wind speed of 110 mph or greater, 8d deformed ($2^1/_2$" × 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.

g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.

h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.

i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

j. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.

CITY OF CARLSBAD
POLICIES AND PROCEDURES

NUMBER: 97-50	SUBJECT: Re-Roof Sheathing Inspections During Inclement Weather
EFFECTIVE: 12/15/97	SECTION: BUILDING DIVISION
SUPERSEDES:	

PURPOSE: To set forth the allowable procedure for re-roof inspections during periods of inclement weather.

INTENT: The intent of this policy is to establish a uniform procedure for inspecting the underlayment installation for re-roof projects while protecting the house from the threat of inclement weather. It is not the intent of this policy to allow roof sheathing to be covered without inspection during periods of dry weather or when there is no threat of inclement weather.

BACKGROUND: The threat of wet weather prompts many homeowners to contract to have their house re-roofed. In most cases this involves removing the old roof material and installing new underlayment (Plywood or proprietary OSB Board). A building permit and "tear off" inspection is required prior to placing the roofing materials.

POLICY: During periods of inclement weather, or when there is a threat of rain, roof sheathing on re-roof projects may be covered with a single layer of asphalt saturated felt and "dried in" prior to the roof sheathing inspection subject to the following conditions:

1. The roof shall not be loaded with roof covering materials until the sheathing has been approved.
2. The roofing contractor shall schedule a sheathing inspection and provide the inspector access to the roof sheathing.
   a. The roofing contractor shall provide an appropriate sized ladder on site for the inspection.
   b. The contractor shall call the morning of the inspection and inform the inspector of the circumstances of the inspection and arrange for either an a.m. or p.m. inspection.
   c. The roofing contractor must have an employee on site during the inspection to reveal portions of the new underlayment to the satisfaction of the inspector.
   d. If structural reinforcement to the roof framing is necessary, the repairs shall be shown to the inspector at that time.
   e. In the event the inspector determines the sheathing is nailed improperly, the roof sheathing shall be fully exposed an re-nailed. A re-inspection is then required.

Initiated By: Approved By:

REROOFING SUPPLEMENTAL BUILDING PERMIT APPLICATION

1. JOB ADDRESS:_____

2. TYPE OF BUILDING: RESIDENTIAL_____ COMMERCIAL_____

**** Please contact HCD for a permit if you will be doing work on a manufactured/mobile home. ****

3. ROOF SLOPE: RISE_____ INCHES IN 12 INCHES

4. NUMBER OF EXISTING ROOF COVERING (CIRCLE ONE) 1 2 3

5. TYPE OF EXISTING ROOF COVERING_____SHEATHING_____

6. NEW ROOF MATERIAL _____CLASS_____

7. NUMBER OF SQUARES_____ WEIGHT PER SQ._____

8. TRADE NAME_____ MANUFACTURER_____

9. ROOF SYSTEM LISTING:

UL NO. _____ I.C.C.E.S. Report #_____ ASTM _____

10. IS THE EXISTING STRUCTURAL DESIGN SUFFICIENT TO SUSTAIN THE WEIGHT OF THE PROPOSED ROOF? YES NO

All roof coverings are required to be CLASS A. Combustible roof coverings of any type or classification are prohibited.

I understand the following inspections are required:

1. Tear Off/Pre-Inspection prior to install new roof covering
2. Final Inspection

I agree to provide a ladder extending at least 2 rungs above the roof for inspection.

Name _____

Signature _____Date_____

(CIRCLE ONE) Contractor Owner

*6. Rolled Roofing, Standard/Lite Tile, Asphalt/Comp fiberglass, Built Up, Other