

99.04.106.7. Reduction of Heat Island Effect for Nonroof Areas [N]. Reduce nonroof heat islands for 25% of pathways, patios, driveways or other paved areas by using one or more of the methods listed.

1. Use trees or other plantings to provide shade and that mature within 5 years of planting. Trees shall be suitable in mature size and environmental requirements for the site. Tree selection and placement shall consider location and size of areas to be shaded, location of utilities, views from the structure, distance to sidewalks and foundations, overhangs onto adjacent properties and streets; other infrastructure and adjacent to landscaping. In addition, shading shall not cast a shadow, as specified, on any neighboring solar collectors pursuant to *Public Resources Code* Section 25981, et seq. (Solar Shade Control Act);

2. Use high albedo materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E1918 or C1549;

3. Use open grid pavement system or pervious or permeable pavement system;

4. Use solar panel arrays to create a canopy shade system; or

5. Other methods of reducing heat island effects acceptable to the Department.

99.04.106.5. Cool Roof for Reduction of Heat Island Effect. Roofing material shall comply with the following:

99.04.106.5.1. Solar Reflectance. Roofing material shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Table 4.106.5.

99.04.106.5.2. Thermal Emittance. Roofing materials shall have a Cool Roof Rating Council (CRRC) initial or aged thermal emittance equal to or greater than those specified in Table 4.106.5.

ROOF SLOPE	MINIMUM 3-YEAR AGED SOLAR REFLECTANCE	THERMAL EMITTANCE
$\leq 2 : 12$	0.63	0.75
$> 2 : 12$	0.20	0.75

REDUCTION OF HEAT ISLAND EFFECT (FOR ROOF & NONROOF AREAS)

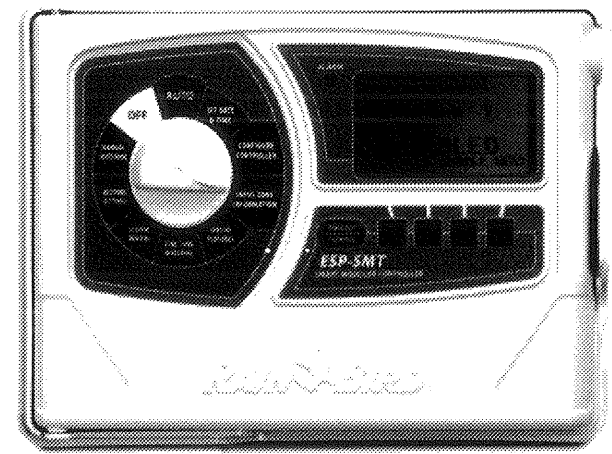
C

ESP-SMT Controller U.S. Environmental Protection Agency WaterSense Approved



The Rain Bird® ESP-SMT is the first controller from a full-line irrigation manufacturer to earn the Environmental Protection Agency (EPA) WaterSense label.

The WaterSense label certifies that the ESP-SMT has passed the EPA's rigorous testing, and confirms that the controller is at least 20 percent more efficient than other products, without sacrificing performance.



How does the ESP-SMT conserve water?

The ESP-SMT leverages technology used by top golf courses for decades, and integrates it into an easy-to-use residential/light commercial controller. Just like the golf courses, your controller will only water when necessary and will only water the amount that the landscape requires, which means no more over watering.

• **On-site rainfall data** – The ESP-SMT collects rainfall amounts from your property and uses this information to recalculate run times for each irrigation zone.

• **Historical weather data** – The internal memory of the ESP-SMT contains over eight years of historical weather data. This data, along with the on-site rainfall and temperature information, is used to adjust watering run times on a daily basis.

• **Reduced water run-off** – The ESP-SMT Cycle and Soak™ feature allows the controller to take into account soil conditions when it calculates run time. This reduces the amount of water that runs off because the soil can't absorb it.

Want to learn more about saving water with the ESP-SMT? Watch the overview video at www.rainbird.com/ESP-SMT

RAIN BIRD

What is EPA WaterSense?

The U.S. Environmental Protection Agency developed a WaterSense program to make it easier for consumers to:

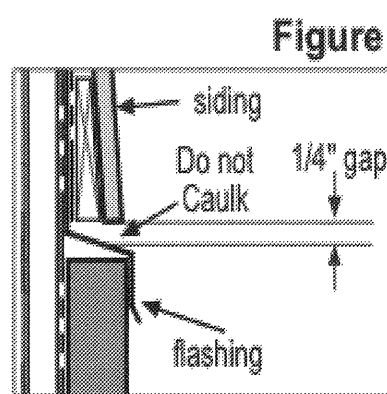
- Recognize water saving products by labeling products that meet water conservation requirements
- Gain access to new water-saving innovations.
- Understand the value of water efficiency
- Reduce stain on water resources



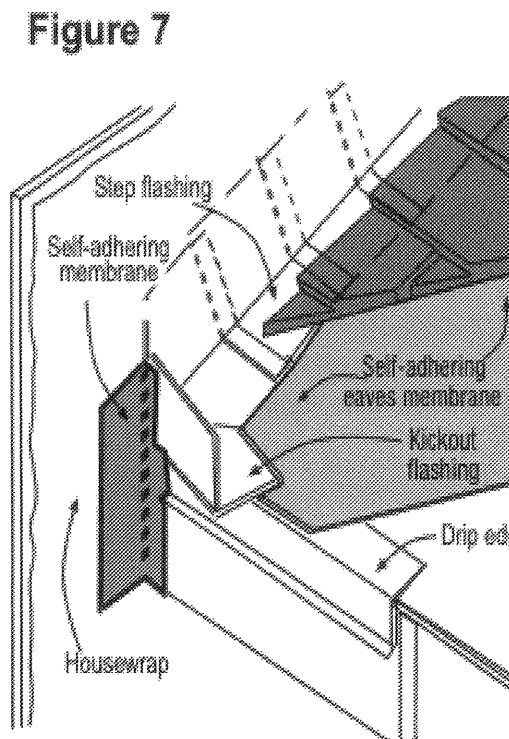
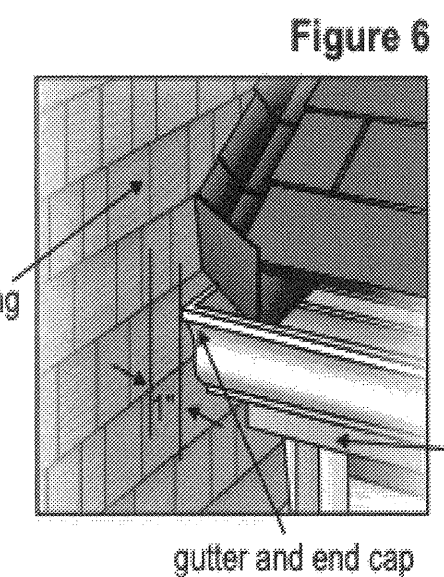
IRRIGATION CONTROLLER NO SCALE

B

Maintain a 1/4" clearance between the bottom of James Hardie® products and horizontal flashing. Do not caulk gap.



Maintain a minimum 1" gap between gutter end caps and siding & trim.



CHIMNEY FLASHING DETAIL - TYP. N.T.S.

GRN 11 - VOC & FORMALDEHYDE LIMITS

LA DBS VOC AND FORMALDEHYDE LIMITS
2014 Los Angeles Green Building Code
(Incorporate this form into the plans)

FORM
GRN 11

VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS ^{1,2}		SEALANT VOC LIMIT	
Grams of VOC per Liter of Coating.		Less Water and Less Exempt Compounds in Grams per Liter	
COATING CATEGORY ³	CURRENT LIMIT	SEALANTS	CURRENT VOC LIMIT
Flat coatings	50	Architectural	250
Nonflat coatings	100	Marine deck	750
Nonflat high gloss coatings	150	Nonmembrane roof	350
Specialty Coatings		Roadway	250
Aluminum roof coatings	400	Single-ply roof membrane	450
Aluminum specialty coatings	400	Other	400
Aluminous roof coatings	50	SEALANT PRIMERS	
Aluminous primers	50	Architectural	250
Bond breakers	350	Nonporous	775
Concrete curing compounds	100	Modified aluminous 500	500
Concrete/masonry sealers	350	Marine deck	750
Driveway sealers	50	Other	400
Dry fog coatings	150	Notes: For additional information regarding methods to measure the VOC content specified in these tables, see South Coast Air Quality Management District Rule 116.	
Fast finishing coatings	350		
Floor coatings	100	ADHESIVE VOC LIMIT ^{1,2}	
Form-release compounds	250	Less Water and Less Exempt Compounds in Grams per Liter	
Graphic arts coatings (sign paints)	500	ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
High temperature coatings	400	Indoor carpet adhesives	50
Industrial maintenance coatings	250	Carpet pad adhesives	50
Low solids coatings	100	Outdoor carpet adhesives	150
Magnesium cement coatings	450	Wood flooring adhesives	100
Methyl acetate coatings	50	Rubber floor adhesives	60
Metallic pigmented coatings	500	Sealant adhesives	65
Multicolor coatings	250	Ceramic tile adhesives	50
Pre-treatment wash primers	400	VC1 and asphalt tile adhesives	50
Primers, sealers, and undercoats	100	Driveway and panel adhesives	50
Resisting penetrating sealers	350	Cove base adhesives	50
Recycled coatings	250	Multigrade construction adhesives	70
Roof coatings	50	Structural glazing adhesives	100
Rust preventive coatings	250	Single-ply roof membrane adhesives	250
Shellacs	50	Other adhesives not specifically listed	50
Other	750	SPECIALTY APPLICATIONS	
CPVC welding	480	CPVC welding	510
ABIS welding	325	ABIS welding	325
Plastic-cement welding	250	Plastic-cement welding	250
Adhesive primer for plastic	550	Adhesive primer for plastic	550
Contact adhesives	80	Contact adhesives	80
Special purpose contact adhesive	250	Special purpose contact adhesive	250
Structural wood member adhesive	250	Structural wood member adhesive	250
Tray and form adhesives	250	Tray and form adhesives	250
Substrate specific applications		Substrate specific applications	
Plastic foams	50	Plastic foams	50
Porous material (except wood)	50	Porous material (except wood)	50
Wood	30	Wood	30
Fiberglass	50	Fiberglass	50

FORMALDEHYDE LIMITS¹
Maximum Formaldehyde Emissions in Parts per Million.

PRODUCT	CURRENT LIMIT
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11

¹ Values in this table are derived from those specified by the California Air Resources Board, Air Toxic Control Measures for Composite Wood as tested in accordance with ASTM E1332. For additional information, see California Code of Regulations, Title 17, Sections 93120 through 93120.1.

² This medium density fiberboard has a maximum thickness of 7/8" inches (9 mm).

³ Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Regulatory Control Measures, February 1, 2005. More information is available from the Air Resources Board.

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GRN 1 - STORMWATER CONTROL

LA DBS STORM WATER POLLUTION CONTROL
2014 Los Angeles Green Building Code
(Incorporate this form into the plans)

FORM
GRN 1

Storm Water Pollution Control Requirements for Construction Activities
Minimum Water Quality Protection Requirements for All Construction Projects

The following notes shall be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.

Construction means constructing, clearing, grading or excavation that result in soil disturbance. Construction includes structure teardown (demolition). It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work. (Order No. 01-182, NPDES Permit No. CAS004001 – Part 5: Definitions)

1. Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet flow, swales, area drains, natural drainage or wind.
2. Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.
3. Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and shall not contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of properly and shall not be washed into the drainage system.
4. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.
5. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.
6. Trash and construction-related solid waste must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.
7. Sediments and other materials shall not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the street/public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by other means.
8. Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.
9. Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.

Revised 01-01-2014

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GRN 16 - FIXTURE FLOW RATE TABLES

LA DBS PLUMBING FIXTURE FLOW RATES
2014 Los Angeles Green Building Code
(Incorporate this form into the plans)

FORM
GRN 16

SECTION 4.303.1 FIXTURE FLOW RATES	
FIXTURE TYPE	MAXIMUM ALLOWABLE FLOW RATE
Showerheads	2 gpm @ 80 psi
Lavatory faucets, residential	1.5 gpm @ 80 psi ¹
Lavatory Faucets, nonresidential	0.4 gpm @ 60 psi ²
Kitchen faucets	1.8 gpm @ 60 psi ³
Gravity tank type water closets	1.28 gallons/flush ⁴
Flushometer tank water closets	1.28 gallons/flush ⁴
Flushometer valve water closets	1.28 gallons/flush ⁴
Urinals	0.125 gallons/flush

¹ Lavatory Faucets shall not have a flow rate less than 0.8 gpm at 20 psi.

² Kitchen faucets may temporarily increase flow above the maximum rate, but not above 2.2gpm @ 60psi and must default to a maximum flow rate of 1.8 gpm @ 60psi.

³ Where complying faucets are unavailable, aerators rated at .35 gpm or other means may be used to achieve reduction.

⁴ Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.

Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.23.2.

Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

Notes:

1. FIELD UNREPRESENTED NOT SHOWN FOR CLARITY.
2. FIELD UNREPRESENTED NOT SHOWN FOR CLARITY.
3. THE CUT SIZE OF THE VALVE SHOULD BE ON THE SIDE WITH THE GREATEST AREA.

Revised 01-01-2014

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GRN 9 - MANDATORY CHECKLIST

LA DBS MANDATORY REQUIREMENTS CHECKLIST
2014 Los Angeles Green Building Code

FORM
GRN 9

MANDATORY REQUIREMENTS CHECKLIST
(COMPLETE AND INCORPORATE THIS FORM INTO THE PLANS)

ITEM #	CODE SECTION	REQUIREMENT	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note #, detail # or reason for N/A)
PLANNING AND DESIGN				
1	4.106.2	Storm water drainage and retention during construction	A1.1	GRN 1
2	4.106.3	Grading and paving	A1.1 / A2.1	C' / CALC.
3	4.106.5	Cool roof for reduction of heat island effect	A1.1 / A3.3	C' / C'5
WATER EFFICIENCY & CONSERVATION				
4	4.303.1	Water conserving plumbing fixtures and fittings	A1.1	GRN 14 #5
5	4.303.1.2	Multiple showerheads serving one shower	A1.1	GRN 14 #6
6	4.304.1	Irrigation controllers	NEW A2.1	GRN NOTES #G1
7	4.304.1.1	Irrigation design	N/A	N/A
MATERIAL CONSERVATION & RESOURCE EFFICIENCY				
8	4.406.1	Rodent proofing	A1.1	GRN 14 #9
9	4.407.3	Flashing details	A1.1	DTL 1, 2, 3, 4
10	4.407.4	Material protection	A1.1	GRN 14 #10
11	4.408.1	Construction waste reduction of at least 50 percent	A2.1	GREEN NOTE
12	4.410.1	Operation and maintenance manual	A1.1	GRN 14 #12
ENVIRONMENTAL QUALITY				
13	4.503.1	Fireplaces and woodstoves	A1.1	GRN 14 #13
14	4.504.1	Covering of direct openings and protection of mechanical equipment during construction	A1.1	GRN 14 #14
15	4.504.2	Finish material pollutant control	A1.1	GRN 14 #15
16	4.504.2.1	- Adhesives, sealants, caulks	A1.1	GRN 14 #16
17	4.504.2.2	- Paints and coatings	A1.1	GRN 14 #16
18	4.504.2.3	- Aerosols and coatings	A1.1	GRN 14 #16
19	4.504.2.4	- Verification	A1.1	GRN 14 #21
20	4.504.3	Carpet systems	A1.1	GRN 14 #17
21	4.504.3.1	Carpet cushion	A1.1	GRN 14 #18
22	4.504.4	Resilient flooring systems	A1.1	GRN 14 #19
23	4.504.5	Composite wood products	A1.1	GRN 14 #20
24	4.505.2.1	Capillary break	A5.0 / A5.1	GRN NOTES #G1
25	4.505.3	Moisture control of building materials	A1.1	GRN 14 #21
26	4.506.1	Bathroom exhaust fans	A3.1 / A3.2	GRN NOTES #G1
27	4.507.2	Heating and air-conditioning system design	A1.1	GRN 14 #27

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GRN 14 - GENERAL NOTES

LA DBS GREEN BUILDING CODE PLAN CHECK NOTES
2014 Los Angeles Green Building Code

FORM
GRN 14

GREEN BUILDING CODE PLAN CHECK NOTES RESIDENTIAL BUILDINGS	
1. For each new dwelling and townhouse, provide a minimum 1-inch diameter listed accessory that can accommodate a dedicated 200/240 volt branch circuit. The panel or subpanel shall have sufficient capacity to support at least Level 2 EVSE. A label stating "EV CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and next to the necessary termination point. (4.106.4.1)	15. Architectural paints and coatings, adhesives, caulks and sealants shall comply with the Volatile Organic Compound (VOC) limits listed in Tables 4.504.1-4.504.3. (4.504.2.1-4.504.2.3)
2. EV spaces within the common parking area serving R-occupancies, shall have labels posted stating "EV CAPABLE" at both the EV charging space and at a conspicuous place at the service panel or subpanel. The electrical system shall have sufficient capacity to simultaneously charge all designated EV spaces at full rated amperage based on Level 2 EVSE. A separate electrical permit is required. (4.106.4.2)	16. The VOC Content Verification Checklist, Form GRN 2, shall be completed and verified prior to final inspection approval. The manufacturer's specifications showing VOC content for all applicable products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.2.4)
3. Roofs with slopes < 2:12 shall have an SRI value of at least 75 or both a 3-year solar reflectance of at least 0.61 and a thermal emittance of at least 0.75. Roofs with slopes > 2:12 shall have an SRI value of at least 16 or both a 3-year solar reflectance of at least 0.20 and a thermal emittance of at least 0.75. (4.106.5)	17. All new carpet installed in the building interior shall meet the testing and product requirements of one of the following: a. Carpet and Rug Institute's Green Label Plus Specification b. California Department of Public Health's Specification 01350 c. NSF/ANSI 140 is the Gold level d. Scientific Certification Systems Indoor Advantage™ Gold (4.504.3)
4. The required hardwired smoke detector shall have a solar reflectance value of at least 0.30 as determined per ASTM E918 or ASTM C1549. (4.106.7)	18. All new carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. (4.504.3.1)
5. The flow rates for all plumbing fixtures shall comply with the maximum flow rates in Section 4.303.1. (4.303.1)	19. 80% of the total area receiving resilient flooring shall comply with one or more of the following: a. VOC emission limits defined in the CHPS High Performance Products Database b. Products compliant with the CHPS criteria certified under the GreenGuard Children & Schools program c. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program d. Meet the California Department of Public Health's Specification 01350 (4.504.4)
6. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads controlled by a single valve shall not exceed 2.0 gallons per minute at 80psi, or the shower shall be designed to only allow one showerhead to be in operation at a time. (4.301.1.5.2)	20. New hardwood plywood, particle board, and medium density fiberboard composite wood products used in the building shall meet the formaldehyde limits listed in Table 4.504.5. (4.504.5)
7. Installed automatic irrigation system controllers shall be weather or soil-based controllers. (4.504.1)	21. The Formaldehyde Emissions Verification Checklist, Form GRN 3, shall be completed prior to final inspection approval. The manufacturer's specifications showing formaldehyde content for all applicable wood products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.5)
8. For projects that include landscape work, the Landscape Certification, Form GRN 12, shall be completed prior to final inspection approval. (State Assembly Bill No. 1881)	22. A 4-inch thick base of 3/4 inch or larger clean aggregate shall be provided for proposed slab on grade construction. (4.505.2.1)
9. Annual species around pipes, electric cables, conduits, or other openings in the building's envelope at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry, or metal plates. Piping penetrations shall be protected in accordance with Section 313 of the Los Angeles Plumbing Code. (4.406.1)	23. A vapor barrier shall be provided in direct contact with concrete for proposed slab on grade construction. (4.505.2.1)
10. Materials delivered to the construction site shall be protected from rain or other sources of moisture. (4.407.1)	24. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed until it is inspected and found to be satisfactory. (4.505.3)
11. Only City of Los Angeles certified hauler will be used for hauling of construction waste. (4.408.1)	25. Newly installed bathroom exhaust fans shall be ENERGY STAR compliant and be ducted to terminate to the outside of the building. Provide the manufacturer's cut sheet for verification. (4.506.1)
12. For all new equipment, an Operation and Maintenance Manual including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection. (4.410.1)	26. Newly installed bathroom exhaust fans, not functioning as a component of a whole house ventilation system, must be controlled by a humidistat which shall be readily accessible. (4.506.1)
13. All new gas fireplaces must be direct-vent, sealed combustion type. Wood burning fireplaces are prohibited per AQMD Rule 445. (4.501.1, AQMD Rule 445)	27. The heating and air-conditioning systems shall be sized and designed using ANSI/ACCA Manual J-2004, ANSI/ACCA 24-D-2009 or ASHRAE handbooks and have their equipment selected in accordance with ANSI/ACCA 36-S Manual S-2004. (4.507.2)

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DIRECT-VENT FIREPLACE NO SCALE

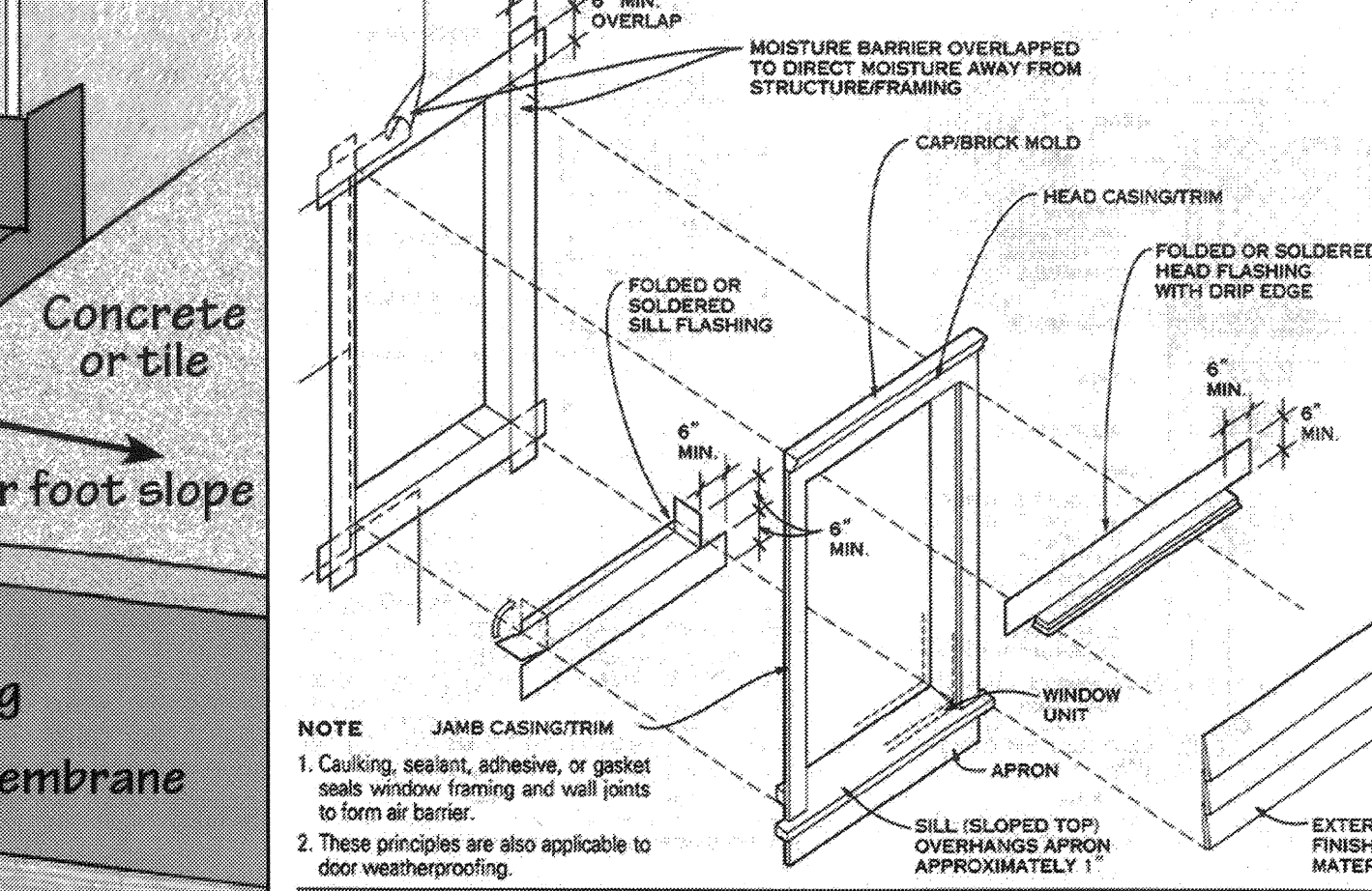
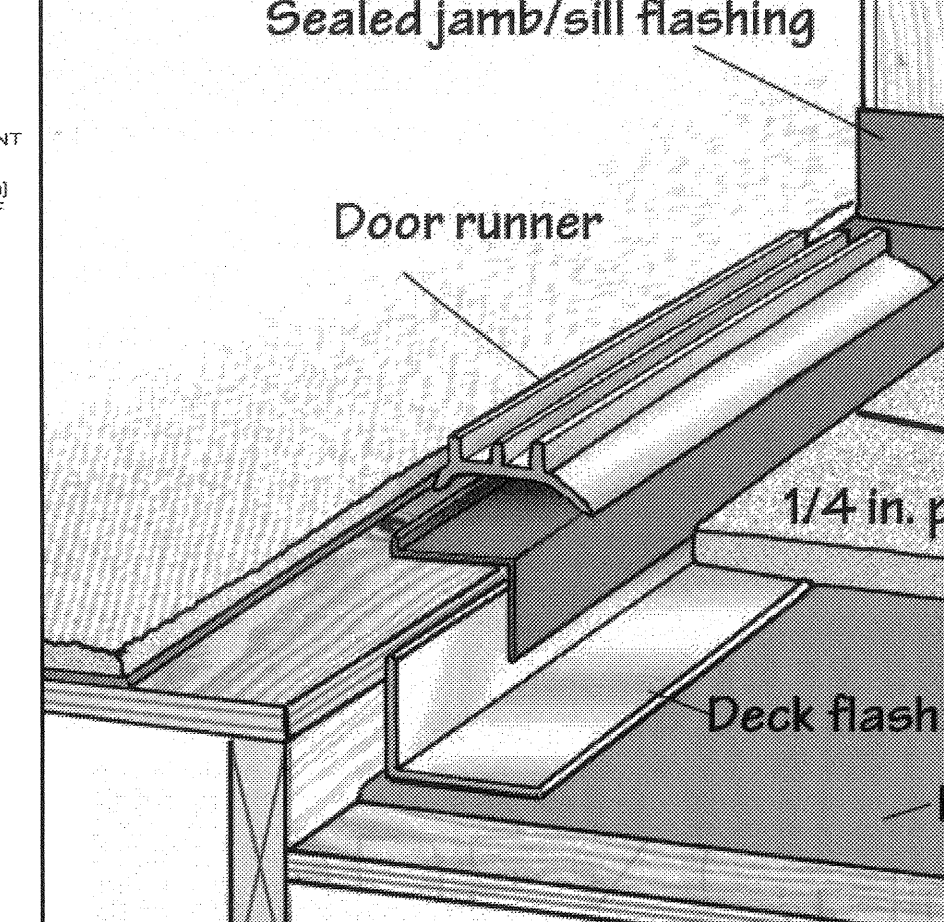
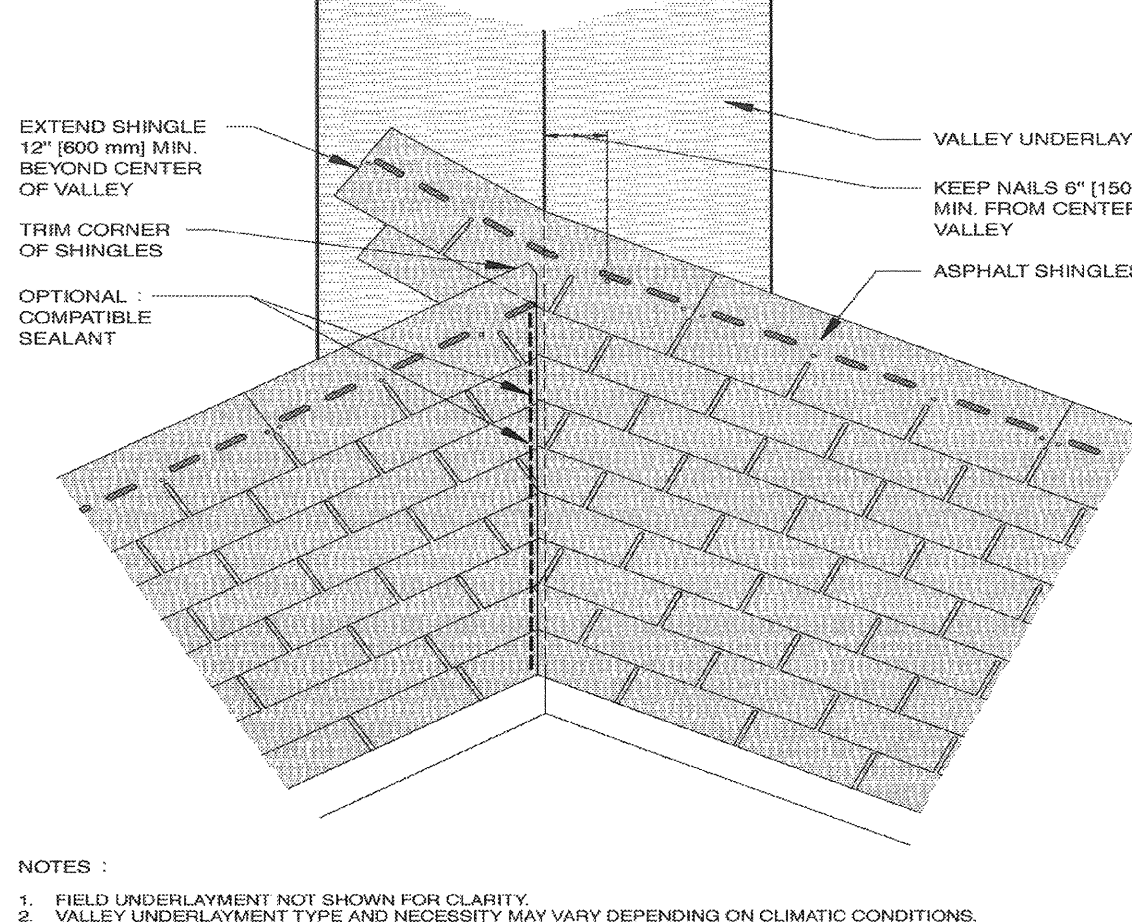
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KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 7, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection



NOTES:

1. FIELD UNREPRESENTED NOT SHOWN FOR CLARITY.
2. FIELD UNREPRESENTED NOT SHOWN FOR CLARITY.
3. THE CUT SIZE OF THE VALLEY SHOULD BE ON THE SIDE WITH THE GREATEST AREA.