

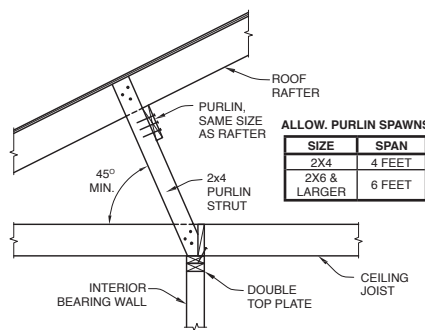


SINGLE STORY CONVENTIONAL WOOD-FRAME CONSTRUCTION SHEET

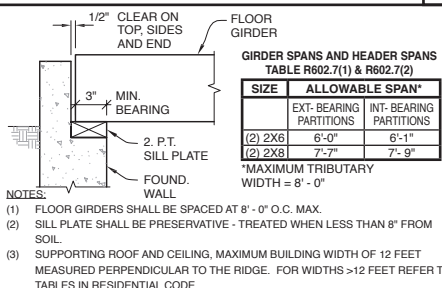


WALL FRAMING	
STUDS	ALLOW HEIGHT
2X4 @ 16" (STUD)	10' - 0"

SIZE	SPAN
2X4	4 FEET
2X6 & LARGER	6 FEET



PURLIN BRACING



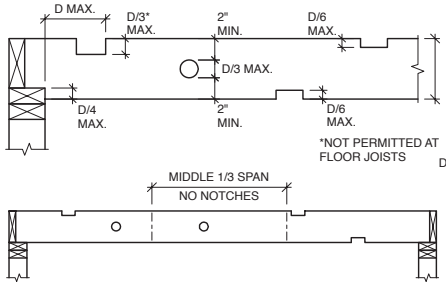
FLOOR GIRDERS

- NOTES:

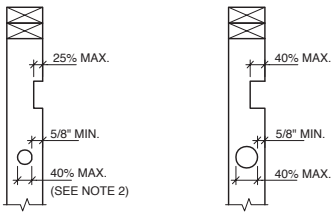
1. MINIMUM CONCRETE STRENGTH: 2500 psi.
2. ANCHOR BOLTS SHALL BE EMBEDDED AT LEAST 7" INTO CONCRETE. FOR TWO-POUR FOUNDATIONS, THE REQUIRED EMBEDMENT SHALL BE PROVIDED IN THE FIRST POUR. ANCHOR BOLTS SHALL BE LOCATED NOT MORE THAN 12", OR LESS THAN 4 - 1/2" FROM SILL PLATE ENDS, CORNERS, AND SPICES. ANCHOR BOLTS SHALL BE INSTALLED WITH 1/4" X 3" SQUARE PLATE WASHERS.
3. FASTENERS FOR PRESERVATIVE TREATED WOOD SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
4. FOUNDATIONS SHOWN ABOVE ASSUME EXPANSIVE SOILS ARE PRESENT AT THE SITE. FOUNDATION REQUIREMENTS MAY BE REDUCED WHEN JUSTIFIED BY A GEOTECHNICAL REPORT OR APPROVED BY THE BUILDING OFFICIAL.
5. FRAMING CLIPS SHALL BE 18 GAGE STEEL WITH FOUR 8d NAILS PER LEG (EIGHT 8d NAILS PER CLIP). FRAMING CLIPS SHALL BE ICC APPROVED AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. SLAB ON GRADE SHALL BE REINFORCED WITH #3 BARS @ 18" EACH WAY. REINFORCING SHALL BE LOCATED AT SLAB MID-HEIGHT.
7. SEE PAGE 3 OF 3, TABLE 150.1A FOR RADIANT BARRIER AND INSULATION REQUIREMENTS BASED ON AHJ'S CLIMATE ZONE.

THIS SHEET IS A SUMMARY OF THE PROVISIONS OF THE 2022 CRC FOR USE WITH SINGLE-STORY CONSTRUCTION ONLY. DEAD LOAD SHALL NOT EXCEED 15 PSF FOR AVERAGE ROOF AND CEILING, OR EXTERIOR WALLS OR FLOORS AND PARTITIONS. FLOOR LIVE LOAD SHALL NOT EXCEED 40 PSF. THIS SHEET IS FOR REFERENCE ONLY AND IS NOT SUBSTITUTE FOR ACCURATE DRAWINGS PREPARED FOR EACH PROPOSED CONSTRUCTION PROJECT.

SINGLE STORY CONVENTIONAL WOOD-FRAME CONSTRUCTION SHEET



RAFTERS, CEILING JOISTS AND FLOOR JOISTS
CRC FIG R602.3(1)



BEARING PARTITIONS &
ALL EXTERIOR WALLS

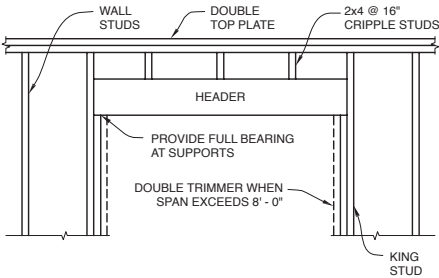
NON-BEARING
PARTITIONS

CRC FIG R602.6(1) & R602.6(2)

NOTES:

- (1) BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION AS A CUT OR NOTCH.
- (2) BORED HOLES IN BEARING STUDS MAY BE INCREASED TO 60% IF STUDS ARE DOUBLED; NO MORE THAN TWO SUCCESSIVE DOUBLE STUDS MAY BE BORED.

2



DF#1 HEADER, ALLOWABLE SPANS*

SPAN	SIZE
UP TO 3' - 6"	4x4
3' - 7" TO 5' - 5"	4x6
5' - 6" TO 6' - 10"	4x8
6' - 10" TO 8' - 5"	4x10
8' - 6" TO 9' - 9"	4x12

HEADER/LINTEL

CRC TABLE R502.5(1)

3

GENERAL NOTES:

- (1) SEE FASTENING SCHEDULE (TABLE R602.3(1)) FOR NAILING NOT SHOWN.
- (2) BEARING WALLS AND BRACED WALLS REQUIRE CONTINUOUS FOOTINGS.
- (3) "DF" ON THESE SHEETS REFERS TO DOUGLAS FIR-LARCH. SAWN LUMBER SHALL BE IDENTIFIED BY THE GRADE MARK OF AN APPROVED LUMBER GRADING OR INSPECTION AGENCY.
- (4) "DL" AND "LL" ON THESE SHEETS INDICATES "DEAD LOAD" AND "LIVE LOAD," RESPECTIVELY.
- (5) WOOD MEMBERS SHALL BE OF SUFFICIENT SIZE TO PREVENT SPLITTING DUE TO NAILING. SPLIT MEMBERS SHALL BE REMOVED AND REPLACED.
- (6) "P.T." ON THESE SHEETS INDICATES PRESERVATIVE-TREATED WOOD.
- (7) WHEN FRAMED WITH ENGINEERED WOOD TRUSSES, ROOF DIAPHRAGMS SHALL BE CONNECTED TO INTERIOR BRACED WALLS BY MEANS OF DRAG TRUSSES OR TRUSS BLOCKING.

DF #2 RAFTERS, ALLOWABLE SPANS*

RAFTER SPACING	DL = 10 PSF, LL = 20 PSF				
	2x4	2x6	2x8	2x10	2x12
12"	10' - 10"	16' - 10"	21' - 4"	26' - 0"	--
16"	9' - 10"	14' - 7"	18' - 5"	22' - 6"	26' - 0"
24"	8' - 2"	11' - 11"	15' - 1"	18' - 5"	21' - 4"

* DATA TAKEN FROM TABLE R802.4.1(1)

DF #2 CEILING JOISTS, ALLOWABLE SPANS*

JOIST SPACING	ATTICS WITHOUT STORAGE, LL = 10 PSF					ATTICS WITH LIMITED STORAGE, LL = 20 PSF				
	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
12"	12' - 5"	19' - 6"	25' - 8"	--	--	9' - 10"	14' - 10"	18' - 9"	22' - 11"	--
16"	11' - 3"	17' - 8"	23' - 4"	--	--	8' - 11"	13' - 0"	16' - 6"	20' - 2"	--
24"	9' - 10"	15' - 0"	19' - 1"	23' - 3"	7' - 3"	10' - 8"	13' - 6"	16' - 5"	--	--

*DATA FROM CRC TABLE R802.5.1(1) & R802.5.1(2) ATTICS WITH STORAGE ARE THOSE WHERE THE CLEAR HEIGHT BETWEEN THE CEILING JOIST AND RAFTER IS 42" OR GREATER. ATTICS SHALL BE UNINHABITABLE. CEILING DEAD LOAD SHALL NOT EXCEED 5 PSF.

RAFTER TIE CONNECTIONS, # 16d COMMON NAILS, SEE NOTE (5)*

TIE SPACING	ROOF PITCH																							
	3:12				4:12				5:12				7:12				9:12				12:12			
	12'	20'	28'	36'	12'	20'	28'	36'	12'	20'	28'	36'	12'	20'	28'	36'	12'	20'	28'	36'	12'	20'	28'	36'
12"	4	6	8	10	3	5	6	8	3	4	5	6	3	4	4	5	3	3	4	4	3	3	3	3
16"	5	8	10	13	4	6	8	10	3	5	6	8	3	4	4	5	3	3	4	4	3	3	4	4
24"	7	11	15	19	5	8	12	15	4	7	9	12	3	5	7	9	3	4	6	7	3	4	4	4

*CRC TABLE R802.5.2 VALUES ADJUSTED FOR DF#2 FRAMING. THE NUMBER OF NAILS SPECIFIED IN THE TABLE SHALL BE PROVIDED AT EACH CONNECTION. WHEN FULL-HEIGHT INTERIOR BEARING WALLS OR PURLIN BRACING ARE PROVIDED, RAFTER TIE NAILING MAY BE REDUCED PROPORTIONAL TO THE REDUCTION IN RAFTER SPAN; NO LESS THEN 3 NAILS SHALL BE PROVIDED AT EACH CONNECTION. NO SNOW LOAD

DF #2 FLOOR JOISTS, ALLOWABLE SPANS*

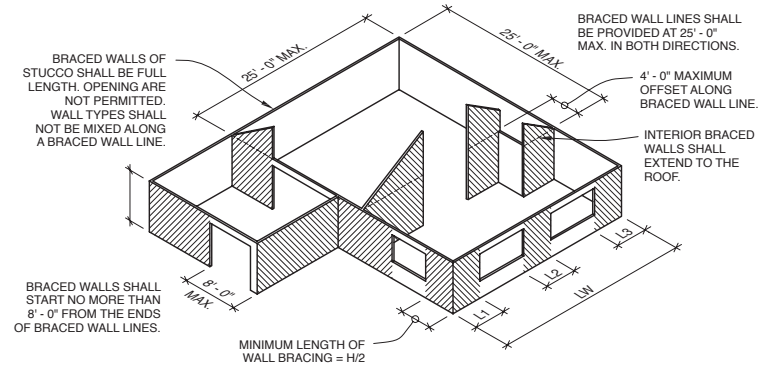
JOIST SPACING	DL = 10 PSF, LL = 40 PSF			
	2x6	2x8	2x10	2x12
12"	10' - 9"	14' - 2"	18' - 0"	20' - 11"
16"	9' - 9"	12' - 9"	15' - 7"	18' - 1"
24"	8' - 3"	10' - 5"	12' - 9"	14' - 9"

* DATA FROM CRC TABLE R502.3.1(2)

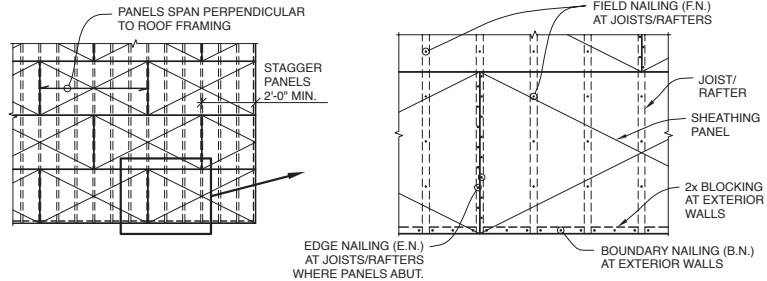
PLYWOOD OR OSB FLOOR AND ROOF SHEATHING, ALLOWABLE SPANS*

SHEATHING GRADES		ALLOWABLE LL (psf)		ROOF				FLOOR	
SPAN RATING FLOOR/ROOF	SPAN THICKNESS	SPAN @ 16" O.C.	SPAN @ 24" O.C.	MAX. SPAN (in.)		LOADS (psf.)		PANEL EDGES WITH T&G JOINTS OR BLOCKING MAX. SPAN (in.)	
				WITH EDGE SUPPORT	WITHOUT EDGE SUPPORT	TOTAL LOAD	LIVE LOAD		
24/0	3/8	100	30	24	20	40	30	0	
24/16	7/16	100	40	24	24	50	40	16	
32/16	15/32, 1/2	180	70	32	28	40	30	16	
40/20	19/32, 5/8	305	130	40	32	40	30	20	
48/24	23/32, 3/4	-	175	48	36	45	35	24	

* DATA FROM CRC TABLE R503.2.1(1) SHEATHING PANELS SHALL BE CONTINUOUS OVER TWO OR MORE SPANS AND PERPENDICULAR TO SUPPORTS. FOR 1/2" SHEATHING MAXIMUM SPAN SHALL BE 24". EDGE SUPPORT MAY BE PROVIDED BY TONGUE AND GROOVE EDGES, 2X BLOCKING OR PANEL EDGE CLIPS.

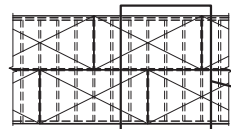


BASIC COMPONENTS OF THE LATERAL BRACING SYSTEM



PARTIAL ROOF/FLOOR PLAN

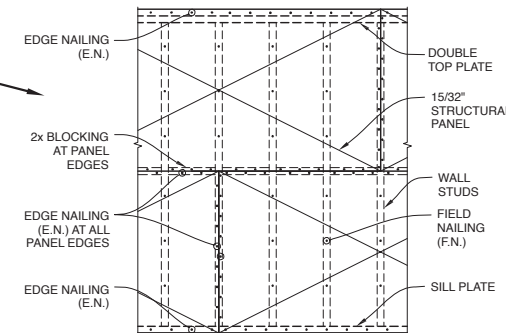
ROOF/FLOOR SHEATHING



PARTIAL WALL ELEVATION

PANEL NAILING SCHEDULE

	B.N. / E.N. / F.N.
ROOFS:	8d @ 6" / 6" / 12"
FLOORS:	8d @ 6" / 6" / 10"
WALLS:	8d @ 6" / 12"



WALL SHEATHING

NOTES:

- (1) NAILS SHALL BE PLACED 3/8" FROM PANEL EDGES.
- (2) PROVIDE 1/8" GAP BETWEEN SHEATHING PANELS
- (3) MINIMUM DIMENSION OF SHEATHING PANEL IN ANY DIRECTION SHALL BE 2'-0".
- (4) WALL SHEATHING PANELS MAY BE INSTALLED WITH THE LONG DIRECTION ORIENTED VERTICALLY

1

PAGE

2

OF 3

LAGUNA HILLS, CALIFORNIA - CLIMATE ZONE 8

TABLE 150.1-A
COMPONENT PACKAGE—SINGLE-FAMILY STANDARD BUILDING DESIGN

SINGLE FAMILY				CLIMATE ZONE																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Building Envelope Insulation																				
Building Envelope	Roofs/Ceilings	Option B (meets §150.1(c)(9A))	Below Roof Deck Insulation ^{1,2} (With Air Space)	NR	NR	NR	R-19	NR	NR	NR	R-19	R-19	R-19	R-19	R-19	R-19	R-19	R-19		
			Ceiling Insulation	R-38	R-38	R-30	R-38	R-30	R-30	R-30	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-38	
			Radiant Barrier	NR	REQ	REQ	NR	REQ	REQ	REQ	NR	NR	NR	NR	NR	NR	NR	NR	NR	
		Option C (meets §150.1(c)(9B))	Ceiling Insulation	R-38	R-30	R-30	R-30	R-30	R-30	R-30	R-30	R-30	R-30	R-38	R-38	R-38	R-38	R-38	R-38	
			Radiant Barrier	NR	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	NR	
	Walls	Above Grade	Framed ³	U 0.048	U 0.048	U 0.048	U 0.048	U 0.048	U 0.065	U 0.065	U 0.048	U 0.048	U 0.048	U 0.048	U 0.048	U 0.048	U 0.048	U 0.048	U 0.048	
			Mass Wall Interior ^{4,5}	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.059 R-17	
			Mass Wall Exterior ^{4,5}	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.125 R-8.0	U 0.077 R-13
		Below Grade	Below Grade Interior ⁶	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.077 R-13	U 0.067 R-15
			Below Grade Exterior ⁶	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.200 R-5.0	U 0.100 R-10	U 0.100 R-10	U 0.053 R-19
		Floors	Slab Perimeter	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	U 0.58 R-7.0
			Raised	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19	U 0.037 R-19
			Concrete Raised	U 0.092 R-8.0	U 0.092 R-8.0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.269 R-0	U 0.092 R-8.0	U 0.138 R-4.0	U 0.092 R-8.0	U 0.092 R-8.0	U 0.138 R-4.0	U 0.092 R-8.0
		Quality Insulation Installation (QII)			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Roofing Products	Low-sloped	Aged Solar Reflectance	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.63	NR	0.63	NR
	Thermal Emittance			NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.75	NR	0.75	NR	
	Steep-sloped		Aged Solar Reflectance	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.20	0.20	0.20	0.20	0.20	0.20	NR
			Thermal Emittance	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.75	0.75	0.75	0.75	0.75	0.75	NR
	Fenestration	Maximum U-factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	
		Maximum SHGC		NR	0.23	NR	0.23	NR	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	NR	
		Maximum Total Area		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	
		Maximum West Facing Area		NR	5%	NR	5%	NR	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	NR	
	Door	Maximum U-factor		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	

(continued)

TABLE 150.1-A—continued
COMPONENT PACKAGE—SINGLE-FAMILY STANDARD BUILDING DESIGN

			CLIMATE ZONE																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
HVAC SYSTEM	Space Heating ⁹	Electric-Resistance allowed		No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
		If gas, AFUE		MIN	MIN	NA	NA	MIN	MIN	MIN	MIN	MIN	NA	MIN	MIN	NA	NA	MIN	MIN
		If Heat Pump, HSPF ⁷ /HSPF2		MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN
	Space Cooling	SEER/SEER2		MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN	MIN
		Refrigerant Charge Verification or Fault Indicator Display		NR	REQ	NR	NR	NR	NR	NR	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	NR
		Whole House Fan ⁸		NR	NR	NR	NR	NR	NR	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	NR
	Central System Air Handlers	Central Fan Integrated Ventilation System Fan Efficacy		REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ
	Ducts ¹⁰	Roof/Ceiling Option B	Duct Insulation	R-8	R-8	R-6	R-8	R-6	R-6	R-6	R-8	R-8	R-8	R-8	R-8	R-8	R-8	R-8	R-8
			§150.1(c)9A	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		Roof/Ceiling Option C	Duct Insulation	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6	R-6
			§150.1(c)9B	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ
WATER HEATING	All Buildings			System Shall meet Section 150.1(c)8															

1. Install the specified *R*-value with an air space present between the roofing and the roof deck, such as standard installation of concrete or clay tile.
2. *R*-values shown for below roof deck insulation are for wood-frame construction with insulation installed between the framing members. Alternatives including insulation above rafters or above roof deck shall comply with the performance standards.
3. Assembly *U*-factors for exterior framed walls can be met with cavity insulation alone or with continuous insulation alone, or with both cavity and continuous insulation that results in an assembly *U*-factor equal to or less than the *U*-factor shown. Use Reference Joint Appendices JA4 Table 4.3.1, 4.3.1(a), or Table 4.3.4 to determine alternative insulation products to be less than or equal to the required maximum *U*-factor.
4. Mass wall has a heat capacity greater than or equal to 7.0 Btu/h-ft².
5. "Interior" denotes insulation installed on the inside surface of the wall. "Exterior" denotes insulation installed on the exterior surface of the wall.
6. Below grade "interior" denotes insulation installed on the inside surface of the wall; and
Below grade "exterior" denotes insulation installed on the outside surface of the wall.
7. HSPF means "heating seasonal performance factor."
8. When whole-house fans are required (REQ), only those whole-house fans that are listed in the Home Ventilating Institute Certified Products Directory may be installed. Compliance requires installation of one or more WHFs whose total airflow cfm is capable of meeting or exceeding a minimum 1.5 cfm/square foot of conditioned floor area as specified by Section 150.1(c)12.
9. A supplemental heating unit may be installed in a space served directly or indirectly by a primary heating system, provided that the unit thermal capacity does not exceed 2 kilowatts or 7,000 Btu/hr and is controlled by a time-limiting device not exceeding 30 minutes.
10. For duct and air handler location: REQ denotes location in conditioned space. When the table indicates ducts and air handlers are in conditioned space, a HERS verification is required as specified by Reference Residential Appendix RA3.1.4.3.8.