APPENDIX B

COMMONLY USED FLORIDA WALL AND ROOF ASSEMBLIES

Commonly Used Wall/Roof Assemblies in Florida

Tables B.1 and B.2 present the wall and roof assemblies commonly used in Florida, respectively. The following information is provided for each wall and roof section:

- Wall assemblies: type of wall system, description of the assembly, which includes the interior and exterior siding and stud information (Table B.1).
- Roof assemblies: type of roof system, description of the assembly, which includes the deck, membrane and support information (Table B.2).

Commonly Used Wall/Roof Assemblies in Florida Passing the Basic and/or Enhanced Large Missile Impact Test

Tables B.3 and B.4 list the commonly used wall and roof assemblies in Florida that passed the basic and enhanced large missile impact test, respectively. These assemblies were obtained from cross-matching of Tables A.1- A.6 with Tables B.1-B.2.

Table B.1: Common Florida Wall Assemblies

No.	Wall system	Description of the assembly					
		Siding		Stud			Additional information
		Interior	Exterior	Material	Size (in.)	Spacing (in.)	
1	Wood	1/2 or 5/8 in. gypsum board	Stucco on plywood	SPF or STF	2x4 or 2x6	16	5/8 in. Plywood or 7/16 in. OSB, Insulation
2	Wood	1/2 or 5/8 in. gypsum board	Stucco on gypsum	SPF or STF	2x4 or 2x6	16	1/2 or 5/8 in. gypsum board, Insulation
3	Wood	1/2 or 5/8 in. gypsum board	Stucco on dinsgold or dinsglass	SPF or STF	2x4 or 2x6	16	1/2 or 5/8 in. dinsgold or dinsglass, Insulation
4	Wood/Metal	1/2 or 5/8 in. gypsum board	Stucco on plywood	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16	5/8 in. Plywood or 7/16 in. OSB, Insulation
5	Wood/Metal	1/2 or 5/8 in. gypsum board	Stucco on gypsum	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16	1/2 or 5/8 in. gypsum board, Insulation
6	Wood/Metal	1/2 or 5/8 in. gypsum board	Stucco on dinsgold or dinsglass	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16 in.	1/2 or 5/8 in. dinsgold or dinsglass, Insulation
7	Wood	1/2 or 5/8 in. gypsum board	Hardi board on plywood	SPF or STF	2x4 or 2x6	16 in.	5/8 in. Plywood or 7/16 in. OSB, 5/16 to 1 in. Hardi board, Insulation
8	Wood/Metal	1/2 or 5/8 in. gypsum board	Hardi board on plywood	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16 in.	5/8 in. Plywood or 7/16 in. OSB, 5/16 to 1 in. Hardi board, Insulation
9	Wood	1/2 or 5/8 in. gypsum board	Hardi board on gypsum	SPF or STF	2x4 or 2x6	16 in.	Gypsum board: 1/2 or 5/8 in., 5/16 to 1 in. Hardi board, Insulation
10	Wood/Metal	1/2 or 5/8 in. gypsum board	Hardi board on gypsum	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16 in.	1/2 or 5/8 in. gypsum board, 5/16 to 1 in. Hardi board, Insulation

Table B.1: Common Florida Wall Assemblies - contd.

No.	Wall system	Description of the assembly					
		Siding		Stud			Additional information
		Interior	Exterior	Material	Size (in.)	Spacing (in.)	
11	Wood	1/2 or 5/8 in. gypsum board	Hardi board (vertrical siding)	SPF or STF	2x4 or 2x6	16	5/16 to 1 in. Hardi board, Insulation
12	Wood/Metal	1/2 or 5/8 in. gypsum board	Hardi board (vertrical siding)	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16	5/16 to 1 in. Hardi board, Insulation
13	Wood	1/2 or 5/8 in. gypsum board	Advantech (3/4 or 5/8 in.)	SPF or STF	2x4 or 2x6	16	Insulation
14	Wood/Metal	1/2 or 5/8 in. gypsum board	Advantech (3/4 or 5/8 in.)	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16	Insulation
15	Metal	---	5V Galvalume: 24 or 26 ga.	Girts	8 to 12 in. Z (16 to 18 ga.)	2 to 6 ft.	---
16	Metal	---	Standing seam: 24 or 26 ga.	Girts	8 to 12 in. Z (16 to 18 ga.)	2 to 6 ft.	---
17	Metal	---	5V Galvalume: 24 or 26 ga.	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16	---
18	Metal	---	Standing seam: 24 or 26 ga.	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16	---
19	Brick	1/2 or 5/8 in. gypsum board	Brick veneer on 19/32 in. OSB or 1/2 in. plywood	SPF or STF	2x4 or 2x6	16	Insulation
20	Brick	1/2 in. or 5/8 in. gypsum board	Brick veneer on 19/32 in. OSB or 1/2 in. plywood	16 to 20 ga. (33 or 50 ksi)	4 to 8 in. C	16 in.	Insulation
21	CMU (8, 10 or 12 in.)	---	---	---	---	---	Grout filled @ 4 ft. o.c.
22	CMU (8, 10 or 12 in.)	---	---	---	---	---	Hollow cells

Table B.1: Common Florida Wall Assemblies - contd.

No.	Wall system	Description of the assembly					
		Siding		Stud			Additional information
		Interior	Exterior	Material	Size (in.)	Spacing (in.)	
23	AAC concrete block	---	---	---	---	---	Size of the block: 8x8x24 in.
24	Concrete walls using insulated concrete forms (ICF)	---	---	---	---	---	6 or 8 in.
25	Tilt up	---	---	---	---	---	5 in. to 12 in.

Table B.2: Common Florida Roof Assemblies

No	Roof System	Description of the Assembly			
		Deck/Roof	**Membrane**	**Support**	**Other**
1	Metal	5V Galvalume	24 or 26 ga. (33, 50 or 60 ksi)	Purlins: 6 to 10 in. Z (12 to 18 ga.) @5ft. o.c.	Insulation
2		5V Galvalume	24 or 26 ga. (33, 50 or 60 ksi)	Metal Pre-Engineered Trusses @ 24 in. o.c.	7/16 or 15/32 in. OSB, Insulation
3		Standing seam	24 or 26 ga. (33, 50 or 60 ksi)	Purlins: 6 to 10 in. Z (12 to 18 ga.) @5 ft. o.c.	Insulation
4		Standing seam	24 or 26 ga. (33, 50 or 60 ksi)	Metal Pre-Engineered Trusses @ 24 in. o.c.	7/16 or 15/32 in. OSB, Insulation
5		1-1/2 in. structural deck (20 to 22 ga.)	26 to 28 ga. roofing	Metal Pre-Engineered Trusses @ 4 ft. o.c.	1-2 in. rigid insulation
6		3 in. metal deck (22 ga)	---	Steel beams @ 12 ft. o.c.	---
7	Wood/Metal	7/16, 1/2 or 19/32 in. OSB	---	Metal Pre-Engineered Trusses @ 24 in. o.c.	Wood, clay or asphalt tiles
8	Concrete	6 to 8 in. Hollow core	---	---	---

Table B.3: Previous Basic Large Missile Performance of Commonly Used Florida Wall/Roof Assemblies (2x4 in. 9 lb missile @ 34 mph)

Sample No.	Wall/Roof System	Sample Description				
		Sample Name	Panel Description		Support	Other
Assemblies that Passed the Basic Test						
1	Metal (Roof)	Steel roof panel	18 ga.	---	K24 bar joists spaced at 5 ft.	---
			20 ga.	---	studs: JW 8 in., 12 ga.	
			22 ga.	33 ksi	Supports @ 4 ft. o.c.	With coverboard and insulation
					Supports @ 5 ft. o.c.	1/4 in. thick Dens-Deck as cover board, 1.5 in. insulation
				----	K 24 bar joists spaced at 5 ft.	---
				----	Girts: Z 8.25 @ 5 ft.	---
			24 ga.	50 ksi	Girts: Z 8.25 @ 5 ft. o.c.	---
			26 ga.	50 ksi		
				80 ksi		
2	Metal (Wall)	Structural galvalume steel	22 ga.	0.030 in. Loc-Seam	Purlin	---
			24 ga.	----	Vertical support: 8 in. Z 12 ga. @ 4 ft. 10 in., Horizontal support: 9x5 in. C 12 ga. @ 8 ft.	
3	Metal (Roof)	Metal panel with standing seam	22 ga.	---	Girts: Z 8.25, @ 3 ft. o.c. (vertically spaced)	----
			24 ga.	55 ksi	Girts: Z 8.25, 6ft. spacing	
			26 ga.	55 ksi		
4	Metal/Wood (Wall)	---	Exterior: 26 ga. (50 ksi) steel, Interior: 5/8 in. thick plywood,	---	Girts: 2 x wood member, #2 SP, Studs: 2 x wood member, #2 SP	---
5	Wood (Wall)	Stud walls with plywood	3/4 in. CD grade plywood	2 layers	---	---

Table B.3: Previous Basic Large Missile Performance of Commonly Used Florida Wall/Roof Assemblies (2x4 in. 9 lb missile @ 34 mph) - contd.

Sample No.	Wall/Roof System	Sample Description				
		Sample Name	Panel Description		Support	Other
6	Wood/Metal (Wall)	Hardi panel	Hardipanel exterior siding with 5/8 in. plywood interior sheathing	---	Vertical support: 2x4 in. wood studs @ 16 in. o.c. 3-5/8x1-3/8 in. steel studs @ 16″ o.c.	---
7	Wood (roof)	Plywood panel	19/32 in. or greater plywood or wood plank	---	---	---
8	CMU (Wall)	ASTM C-90 single-wythe CMU wall	6 in.	----	2x4 joists @ 24 in. o.c.	#5 bar @ 5ft. 4 in. o.c.
			8 in.		2x4 joists @ 24 in. o.c.	#5 bar @ 6 ft. o.c.
9	Hollow Core Slab (Roof)	Hollow core grouted slab	6 in.	----	----	Grouted slab
			8 in.			
			10 in.			
10	Hollow Core Slab (Roof)	Hollow core slab	6 in.	----	----	----
			8 in.			
			10 in.			
			12 in.			
Assemblies that Failed the Basic Test						
11	Metal (Wall/Roof)	Metal	24 ga. sheet metal	80 ksi	----	----

Table B.4: Previous Enhanced Large Missile Performance of Commonly Used Florida Wall/Roof Assemblies (2x4 in. 15 lb missile @ 50 mph)

Sample No.	Wall/Roof System	Sample Description				
		Sample Type	Panel Description		Support	Other
Assemblies that Passed the Enhanced Test						
1	Metal	Metal panel with standing seam	20 ga. 22 ga.	----	Girts: Z 8.25 @ 3 ft. (vertically placed)	----
2	Metal	Steel roof panel	24 ga.	50 ksi 80 ksi	Girts: Z 8.0, 16 ga.	---- ----
3	Wood	Stud walls with plywood	3/4 in. CD grade plywood	3 layers **4 layers**	----	----
Assemblies that Failed the Enhanced Test						
4	Wood	Stud walls with siding materials	7/16 in. masonite exterior siding	1/2 in. gypsum board interior finish	Wood studs	----
5	Wood	Stud walls with siding materials	1/2 in. plywood exterior siding	1/2 in. gypsum wallboard	Wood studs	----
6	Wood	Stud walls with siding materials	3/4 in. plywood exterior siding	1/2 in. gypsum wallboard	Wood studs	----
7	Wood	Stud walls with siding materials	1/2 in. plywood exterior siding with 3 layers of stucco	1/2 in. gypsum wallboard	Wood studs	----
8	Wood	Stud walls with siding materials	3/4 in. lapboard exterior siding	1/2 in. gypsum wallboard	Wood studs	----
9	Wood/Brick	Brick veneer walls	Exterior finish consists of 3/4 in. plywood sheeting attached to the studs with a 3 in. brick veneer	Interior finish consists of 5/8 in. gypsum board attached directly to the wood studs	Wood studs	
10	Metal	Steel roof panel	24 ga.	80 ksi	Girts: Z 8.0, 16 ga	----