

**APPENDIX M  
WOOD DECKS**

This appendix is a North Carolina addition to the 2009 International Residential Code. (The provisions contained in this appendix are adopted as part of this code.)

**SECTION AM101  
GENERAL**

**AM101.1 General.** A deck is an exposed exterior wood floor structure which may be attached to the structure or freestanding. Railed porches (open or screened) may be constructed using these provisions.

**AM101.2 Deck design.** Computer deck design programs may be accepted by the code enforcement official.

**SECTION AM102  
FOOTERS**

**AM102.1 Footers.** Support post shall be supported by a minimum footing per Figures AM102.1 and Table AM102.1. Minimum footing depth shall be 12 inches below finished grade per Section R403.1.4. Tributary area is calculated per Figure AM102.1.

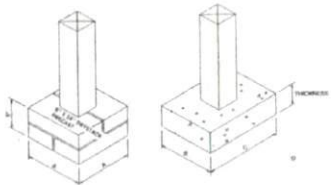


FIGURE AM102

TABLE AM102.1  
FOOTING TABLES\*\*

SIZE (inches)	TYPICAL AREA		Pressure	Depth in Feet	
	DN x W	W x L		1	2
8" x 8"	8" x 8"	16"	1/2	5	5
10" x 10"	10" x 10"	20"	2/3	6	6
12" x 12"	12" x 12"	24"	3/4	7	7
14" x 14"	14" x 14"	28"	1	8	8
16" x 16"	16" x 16"	32"	1 1/4	9	9
18" x 18"	18" x 18"	36"	1 1/2	10	10

FIG. 10: 1 inch = 25.4 mm, 1 square foot = 0.929 m<sup>2</sup>.  
 \* Footing values are based on single foot and soil loads.  
 \*\* Support post loads are in terms of "F" of load.  
 \*\*\* Top of footer shall be set for full bearing support.

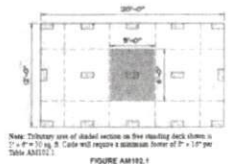


FIGURE AM104.1

**SECTION AM104  
DECK ATTACHMENT**

**AM104.1 Deck attachment.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM104.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

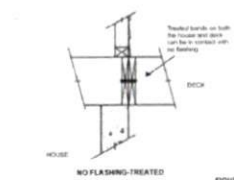


FIGURE AM104.2

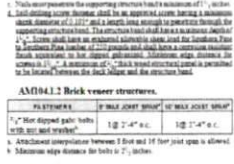


FIGURE AM104.3

**SECTION AM104  
DECK ATTACHMENT**

**AM104.1 Deck attachment.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM104.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

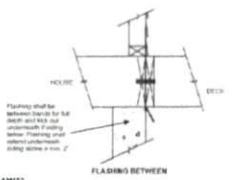


FIGURE AM104.2

TABLE M101.2  
DECK JOIST SPACING FOR COMMON LUMBER SPECIES\*\* (S4 - S4)

SPECIES	SPAN	SPACING OF BRICK JOISTS WITH MAXIMUM SPACING*			
		10	14	16	18
Southern pine	2" x 4	9'-11"	9'-0"	7'-7"	6'-8"
	2" x 6	13'-1"	11'-0"	9'-8"	8'-8"
	2" x 8	16'-2"	14'-0"	11'-5"	10'-0"
Douglas fir-hemlock	2" x 4	9'-6"	8'-8"	7'-2"	6'-3"
	2" x 6	12'-8"	11'-2"	9'-1"	8'-1"
	2" x 8	15'-8"	13'-2"	11'-1"	10'-1"
Loblolly-shortleaf	2" x 4	10'-0"	9'-0"	7'-6"	6'-7"
	2" x 6	13'-4"	11'-4"	9'-3"	8'-3"
	2" x 8	16'-0"	14'-0"	11'-0"	10'-0"
Redwood	2" x 4	8'-10"	8'-0"	7'-0"	6'-7"
	2" x 6	11'-8"	10'-7"	9'-4"	8'-4"
	2" x 8	14'-11"	13'-0"	10'-7"	10'-7"
Tropical pine	2" x 4	11'-5"	10'-5"	9'-2"	8'-3"
	2" x 6	14'-11"	13'-0"	10'-7"	10'-7"
	2" x 8	18'-11"	16'-5"	12'-7"	12'-4"

\* For 10' inch = 25.4 mm, 1 inch = 25.4 mm, 1 pound per square foot = 47.880 kPa, 1 pound = 0.454 kg.  
 \*\* The 7' panel width used herein is for:  
 1. Ground snow load, but not to exceed 10 psf (0.48 kPa).  
 2. Ground snow load, but not to exceed 10 psf (0.48 kPa) with a 10' x 10' panel width.  
 3. Deck joist spacing shall be 16' on center with a 220-pound point load applied to mid span.  
 4. Includes rafter loads.  
 5. Maximum spans with no rafter loads.  
 6. Continuous spans are measured the smallest depth of the joist in question.

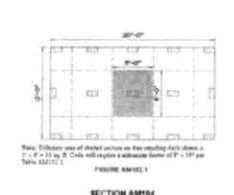


FIGURE AM105.1

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

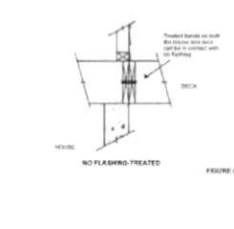


FIGURE AM105.2



FIGURE AM105.1

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

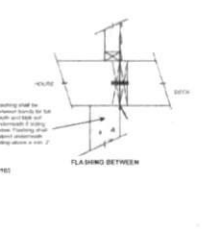


FIGURE AM105.2

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.



FIGURE AM105.2



FIGURE AM105.1

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.



FIGURE AM105.2

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

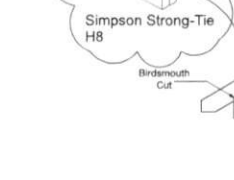


FIGURE AM105.2



FIGURE AM105.1

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

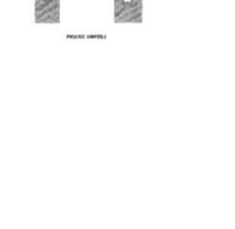


FIGURE AM105.2

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

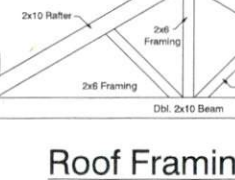


FIGURE AM105.2

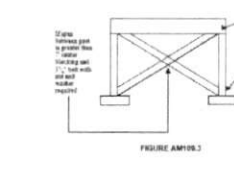


FIGURE AM105.1

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

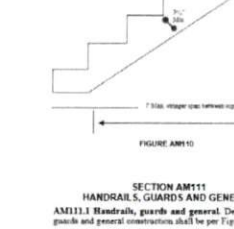


FIGURE AM105.2

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

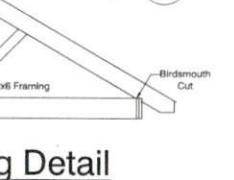


FIGURE AM105.2



FIGURE AM105.1

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.

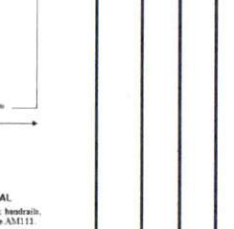


FIGURE AM105.2

**SECTION AM105  
RAILING**

**AM105.1 Deck railing.** When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck board to the structure.

**AM105.1.1 All structures except brick veneer structures.**

METHOD	FASTENERS	# MAX JOIST SPACINGS	# MAX JOIST SPACINGS
1	1/2" Hot dipped galv bolts with nut and washer and end and	1 @ 7'-0" and	1 @ 7'-0" and
	13d Common hot dipped galv	2 @ 3'-0" and	2 @ 3'-0" and
	OR		
2	Self-drilling screw anchors	12" dia. (max)	8" dia. (max)

\* Attachment interspace between 3 but not 14 feet post span is allowed.  
 \* Maximum edge distance for bolts is 2" inches.



FIGURE AM105.2



**Roof Framing Detail**  
 Scale: 1/4" = 1'0"  
 2x6 Framing is for Gable End only

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**FRAZIER DESIGNS**  
 MEMBER  
**AIBD**  
 AMERICAN INSTITUTE OF BUILDING DESIGN

**Frazier Designs**  
 A Residential Design Company  
 (910) 818-2413  
 www.frazierplans.com

Project: Wood Deck Addition  
 MODEL: FD-390  
 BUILDER:

DATE PRINTED: May, 2010  
 DRAFTER BY: RTE

Deck