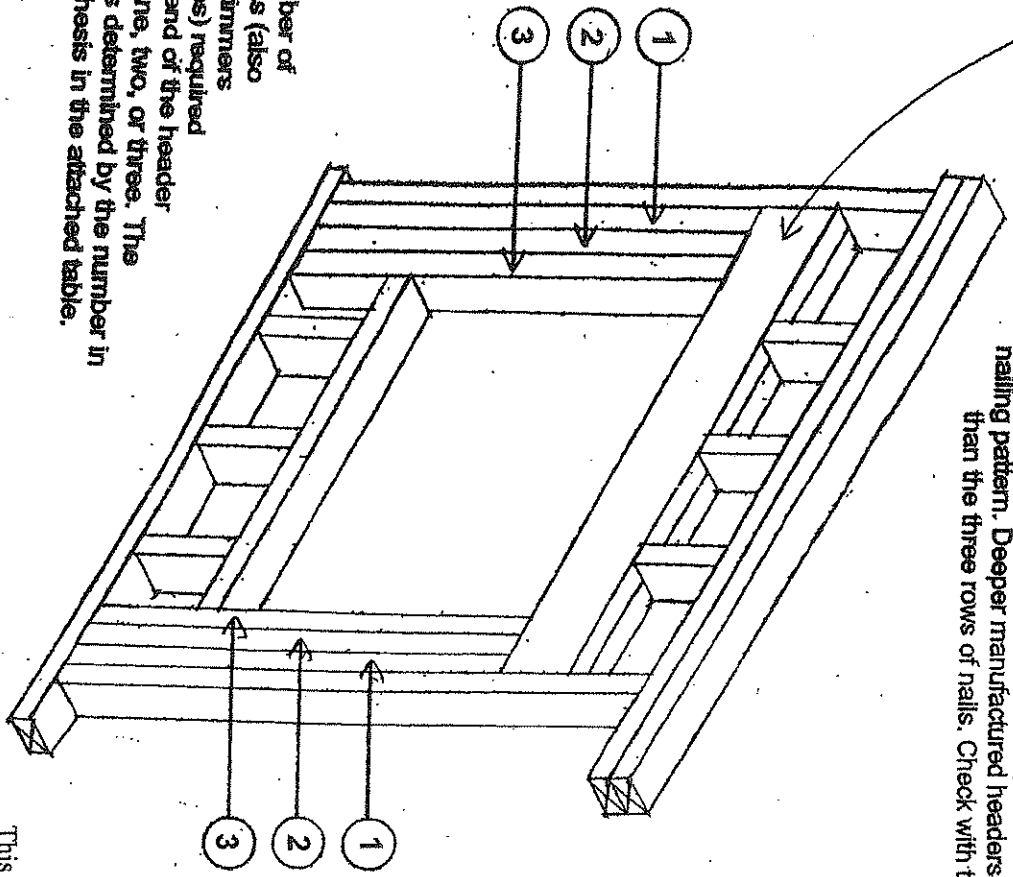


Headers are required to have plywood or blocks between the members. Nailing is required through the header at the top and bottoms every 16" for structural lumber so the header carries the load as one structural unit.

Manufactured header material (microlam) is required to be nailed according to the manufacturer's recommendations: For a 12 inch deep manufactured header 3 nails (top, center, bottom) Every 12 inches is the required nailing pattern. Deeper manufactured headers will require more than the three rows of nails. Check with the manufacturer.



The number of jack studs (also named trimmers or cripples) required on each end of the header may be one, two, or three. This number is determined by the number in () parenthesis in the attached table.

Studs and headers around wall openings

RESIDENTIAL HEADER



Bremer County
 Building & Zoning Department
 415 East Bremer Avenue
 Waverly, Iowa 50677
 319-352-0332

Serving the Cities of

- Denver
- Dunkerton
- Janesville
- Readlyn
- Tripoli
- Waverly

This brochure is intended to explain some of the requirements for residential headers. If you have further questions, please call the Building & Zoning Department.

319-352-0332
 7:00 A.M.—4:30 P.M.

Figure R502.5(3)
HEADER SPANS FOR INTERIOR LOAD BEARING WALLS

SOURCE: AF&PA WOOD FRAME CONSTRUCTION MANUAL FOR ONE- AND TWO-FAMILY DWELLINGS, 1995 SBC HIGH WIND EDITION

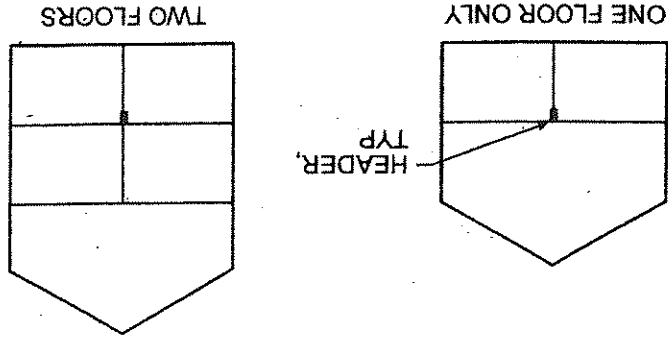
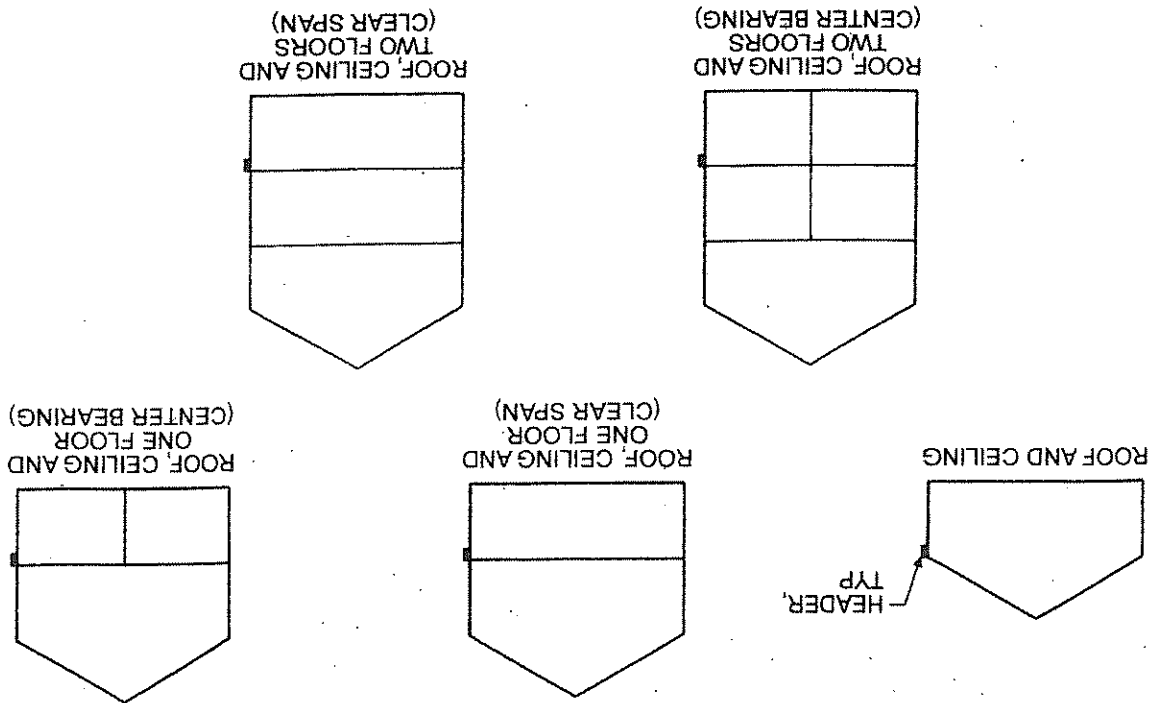


Figure R502.5(2)
HEADER SPANS FOR EXTERIOR LOAD BEARING WALLS

SOURCE: AF&PA WOOD FRAME CONSTRUCTION MANUAL FOR ONE- AND TWO-FAMILY DWELLINGS, 1995 SBC HIGH WIND EDITION



For SF: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
 a. Spans are given in feet and inches.
 b. Tabulated values assume #2 grade lumber.
 c. Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.
 d. NJ - Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.

HEADERS AND GIRDERS SUPPORTING		SIZE		Span		NJ ^d		Span		NJ ^d	
One floor only		2-2x4	3-1	1	1	2-8	1	1	2-5	1	1
		2-2x6	4-6	1	1	3-11	1	1	3-6	1	1
		2-2x8	5-9	1	1	5-0	2	2	4-5	2	2
		2-2x10	7-0	2	2	6-1	2	2	5-5	2	2
		2-2x12	8-1	2	2	7-0	2	2	6-3	2	2
		3-2x8	7-2	1	1	6-3	1	1	5-7	2	2
		3-2x10	8-9	1	1	7-7	2	2	6-9	2	2
		3-2x12	10-2	2	2	8-10	2	2	7-10	2	2
		4-2x8	9-0	1	1	7-8	1	1	6-9	1	1
		4-2x10	10-1	1	1	8-9	1	1	7-10	2	2
		4-2x12	11-9	1	1	10-2	2	2	9-1	2	2
		2-2x4	2-2	1	1	1-10	1	1	1-7	1	1
		2-2x6	3-2	2	2	2-9	2	2	2-5	2	2
		2-2x8	4-1	2	2	3-6	2	2	3-2	2	2
		2-2x10	4-11	2	2	4-3	2	2	3-10	3	3
		2-2x12	5-9	2	2	5-0	3	3	4-5	3	3
		3-2x8	5-1	2	2	4-5	2	2	3-11	2	2
		3-2x10	6-2	2	2	5-4	2	2	4-10	2	2
		3-2x12	7-2	2	2	6-3	2	2	5-7	3	3
		4-2x8	6-1	1	1	5-3	2	2	4-8	2	2
4-2x10	7-2	2	2	6-2	2	2	5-6	2	2		
4-2x12	8-4	2	2	7-2	2	2	6-5	2	2		
BUILDING WIDTH ^c (feet)		20		28		36		20		28	
BUILDING WIDTH ^c (feet)		30		36		42		36		42	
GROUND SNOW LOAD (psf) ^a		30		50		70		36		36	

TABLE R502.5(2) GIRDER SPANS AND HEADER SPANS FOR INTERIOR BEARING WALLS (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir and required number of jack studs)

For SF: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.
 a. Spans are given in feet and inches.
 b. Tabulated values assume #2 grade lumber.
 c. Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.
 d. NJ - Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.
 e. Use 30 psf ground snow load for cases in which ground snow load is less than 30 psf and the roof live load is equal to or less than 20 psf.

GIRDERS AND HEADERS SUPPORTING		SIZE		Span		NJ ^d		Span		NJ ^d			
Roof, ceiling, and two clear span floors		2-2x4	1-8	1	1	1-8	1	1	1-5	2	2		
		2-2x6	2-8	2	2	2-11	2	2	2-7	2	2		
		2-2x8	3-10	2	2	3-9	3	3	3-3	2	2		
		2-2x10	4-9	2	2	4-7	3	3	4-0	3	3		
		2-2x12	5-6	3	3	5-4	3	3	4-7	3	3		
		3-2x8	4-10	2	2	3-9	2	2	4-1	2	2		
		3-2x10	5-11	2	2	4-7	3	3	4-11	2	2		
		3-2x12	6-10	2	2	5-4	3	3	5-9	3	3		
		4-2x8	5-7	2	2	4-4	2	2	4-8	2	2		
		4-2x10	6-10	2	2	5-3	2	2	5-9	2	2		
		4-2x12	7-11	2	2	6-2	3	3	6-8	2	2		
		BUILDING WIDTH ^c (feet)		20		28		36		20		28	
		BUILDING WIDTH ^c (feet)		30		36		42		36		42	
		GROUND SNOW LOAD (psf) ^a		30		50		70		36		36	

TABLE R502.5(1)-continued GIRDER SPANS AND HEADER SPANS FOR EXTERIOR BEARING WALLS (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir and required number of jack studs)

**TABLE R502.5(1)
GIRDER SPANS AND HEADER BEARING WALLS**
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir and required number of jack studs)

GIRDERS AND HEADERS SUPPORTING	SIZE	Roof and ceiling				Roof, ceiling and one center-bearing floor				Roof, ceiling and one clear span floor				Two center-bearing floors				
		Span	N ^d	Span	N ^d	Span	N ^d	Span	N ^d	Span	N ^d	Span	N ^d	Span	N ^d	Span	N ^d	
30	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1	
		2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	
	2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1		
	2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2		
	2-2x10	2	6-6	2	5-9	2	6-6	2	5-7	2	6-6	2	5-9	2	6-6	2		
	2-2x12	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2		
	28	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
		2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	
		2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2	
	20	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
		2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	
		2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2	
	28	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
2-2x6		1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1		
2-2x8		1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2		
2-2x10		2	6-6	2	5-9	2	6-6	2	5-7	2	6-6	2	5-9	2	6-6	2		
2-2x12		2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2		
36		20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
		2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	
		2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2	
36		20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
	2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1		
	2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2		
	2-2x10	2	6-6	2	5-9	2	6-6	2	5-7	2	6-6	2	5-9	2	6-6	2		
	2-2x12	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2		
	28	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
		2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	
		2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2	
	28	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
2-2x6		1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1		
2-2x8		1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2		
2-2x10		2	6-6	2	5-9	2	6-6	2	5-7	2	6-6	2	5-9	2	6-6	2		
2-2x12		2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2		
20		20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
		2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	
		2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2	
20		20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
	2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1		
	2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2		
	2-2x10	2	6-6	2	5-9	2	6-6	2	5-7	2	6-6	2	5-9	2	6-6	2		
	2-2x12	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2		
	28	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
		2-2x6	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	
		2-2x8	1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2	
	28	20	3-6	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1	2-10	1	3-2	1
			2-2x4	1	2-10	1	2-9	1	3-2	1	2-10	1	3-2	1	2-9	1	3-2	1
2-2x6		1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1	4-2	1	4-8	1		
2-2x8		1	5-5	1	4-8	1	5-11	2	5-4	2	4-7	2	5-11	2	4-7	2		
2-2x10		2	6-6	2	5-9	2	6-6	2	5-7	2	6-6	2	5-9	2	6-6	2		
2-2x12		2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2	6-6	2	7-5	2		

Building width (feet)

GROUND SNOW LOAD (psf)

(continued)