



**CITY OF
WATERLOO**

Building Department

RESIDENTIAL HEADERS

Section R602.7 - 2021 IRC

715 Mulberry Street, Waterloo IA 50703 319-291-4319 www.cityofwaterlooia.com

**TABLE R602.7(2)
Header Spans for INTERIOR Bearing Walls**

Supporting	Size	12' Building Width		24' Building Width		36' Building Width	
		Span	# Jack Studs	Span	# Jack Studs	Span	# Jack Studs
One Floor	2-2x4	4'1"	1	2'10"	1	2'4"	1
	2-2x6	6'1"	1	4'4"	1	3'6"	1
	2-2x8	7'9"	1	5'5"	1	4'5"	2
	2-2x10	9'2"	1	6'6"	2	5'3"	2
	2-2x12	10'9"	1	7'7"	2	6'3"	2
	3-2x8	9'8"	1	6'10"	1	5'7"	1
	3-2x10	11'5"	1	8'1"	1	6'7"	2
	3-2x12	13'6"	1	9'6"	2	7'9"	2
	4-2x8	11'2"	1	7'11"	1	6'5"	1
	4-2x10	13'3"	1	9'4"	1	7'8"	1
4-2x12	15'7"	1	11'0"	1	9'0"	2	
Two Floors	2-2x4	2'7"	1	1'11"	1	1'7"	1
	2-2x6	3'11"	1	2'11"	2	2'5"	2
	2-2x8	5'0"	1	3'8"	2	3'1"	2
	2-2x10	5'11"	2	4'4"	2	3'7"	2
	2-2x12	6'11"	2	5'2"	2	4'3"	3
	3-2x8	6'3"	1	4'7"	2	3'10"	2
	3-2x10	7'5"	1	5'6"	2	4'6"	2
	3-2x12	8'8"	2	6'5"	2	5'4"	2
	4-2x8	7'2"	1	5'4"	1	4'5"	2
	4-2x10	8'6"	1	6'4"	2	5'3"	2
4-2x12	10'1"	1	7'5"	2	6'2"	2	

Lumber must be #2 grade or better

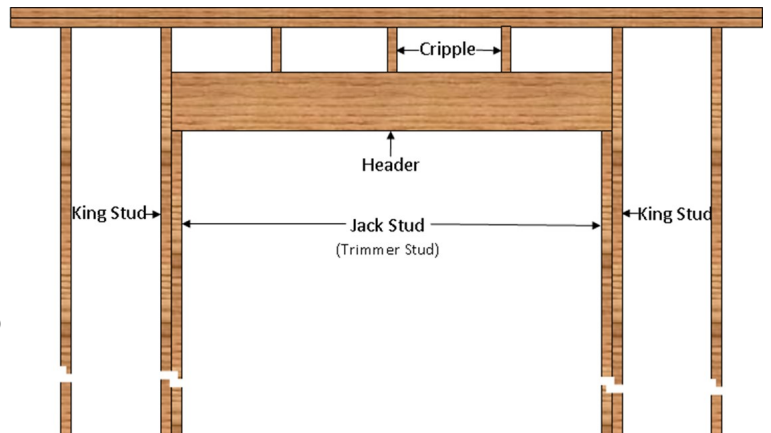
Building width is measured perpendicular to the ridge. Intermediate spans can be interpolated.

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.

Full-height, or King Studs adjacent to each end of the header shall be end nailed to each end of the header with four 16d nails.

Up to an 8' span requires a single king stud at each end. Greater than 8' spans require two king studs.

A single flat 2x4 is permitted to be used as a header in interior or exterior nonbearing walls with openings up to 8' in width if the vertical distance to the parallel nailing surface above is not more than 24".



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

TABLE R602.7(1)
Header Spans for EXTERIOR Bearing Walls

Supporting	Header Size	12' Building Width		24' Building Width		36' Building Width	
		Span	# Jack Studs	Span	# Jack Studs	Span	# Jack Studs
Roof & Ceiling (slab on grade)	1-2x6	4'0"	1	3'1"	2	2'7"	2
	1-2x8	5'1"	2	3'11"	2	3'3"	2
	1-2x10	6'0"	2	4'8"	2	3'11"	2
	1-2x12	7'1"	2	5'5"	2	4'7"	3
	2-2x4	4'0"	1	3'1"	1	2'7"	1
	2-2x6	6'0"	1	4'7"	1	3'10"	1
	2-2x8	7'7"	1	5'9"	1	4'10"	2
	2-2x10	9'0"	1	6'10"	2	5'9"	2
	2-2x12	10'7"	2	8'1"	2	6'10"	2
	3-2x8	9'5"	1	7'3"	1	6'1"	1
	3-2x10	11'3"	1	8'7"	1	7'3"	2
	3-2x12	13'2"	1	10'1"	2	8'6"	2
	4-2x8	10'11"	1	8'4"	1	7'0"	1
	4-2x10	12'11"	1	9'11"	1	8'4"	1
4-2x12	15'3"	1	11'8"	1	9'10"	2	
Roof, ceiling & one center bearing floor (single story w/basement)	1-2x6	3'3"	1	2'7"	2	2'2"	2
	1-2x8	4'1"	2	3'3"	2	2'9"	2
	1-2x10	4'11"	2	3'10"	2	3'3"	3
	1-2x12	5'9"	2	4'6"	3	3'10"	3
	2-2x4	3'3"	1	2'6"	1	2'2"	1
	2-2x6	4'10"	1	3'9"	1	3'3"	2
	2-2x8	6'1"	1	4'10"	2	4'1"	2
	2-2x10	7'3"	2	5'8"	2	4'10"	2
	2-2x12	8'6"	2	6'8"	2	5'8"	2
	3-2x8	7'8"	1	6'0"	1	5'1"	2
	3-2x10	9'1"	1	7'2"	2	6'1"	2
	3-2x12	10'8"	2	8'5"	2	7'2"	2
	4-2x8	8'10"	1	6'11"	1	5'11"	1
	4-2x10	10'6"	1	8'3"	2	7'0"	2
4-2x12	12'4"	1	9'8"	2	8'3"	2	
Roof, ceiling & one clear span floor (single story w/basement)	1-2x6	2'11"	2	2'3"	2	1'11"	2
	1-2x8	3'9"	2	2'10"	2	2'5"	3
	1-2x10	4'5"	2	3'5"	3	2'10"	3
	1-2x12	5'2"	2	4'0"	3	3'4"	3
	2-2x4	2'11"	1	2'3"	1	1'10"	1
	2-2x6	4'4"	1	3'4"	2	2'10"	2
	2-2x8	5'6"	2	4'3"	2	3'7"	2
	2-2x10	6'7"	2	5'0"	2	4'2"	2
	2-2x12	7'9"	2	5'11"	2	4'11"	3
	3-2x8	6'11"	1	5'3"	2	4'5"	2
	3-2x10	8'3"	2	6'3"	2	5'3"	2
	3-2x12	9'8"	2	7'5"	2	6'2"	2
	4-2x8	8'0"	1	6'1"	1	5'1"	2
	4-2x10	9'6"	1	7'3"	2	6'1"	2
4-2x12	11'2"	2	8'6"	2	7'2"	2	

Lumber must be #2 grade or better.

Building width is measured perpendicular to the ridge.

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.

Spans are calculated with the top of the header being laterally braced by perpendicular framing.

See the 2021 IRC for header spans for exterior bearing walls in two story homes.