

LOAD CHART FOR BEAMS & GIRDER END REACTIONS

(Per code section R5052.5(1)b pg. 84.1 NC Residential Code)

	ROOF SPAN	ATTIC FLOOR SPAN	FLOOR SPAN		BEAM / GIRDER SPAN	1st FLOOR LIVE	1st FLOOR DEAD	2nd FLOOR LIVE	2nd FLOOR DEAD	ATTIC FLOOR LIVE	ATTIC FLOOR DEAD	ROOF LIVE	ROOF DEAD	WALL LOAD (PLF)	PLF LOAD	END REACTION	Number of Jack Studs Required @ Each End of Header 1,2		
			1st	2nd													3"	4.5"	6"
			(2-2x)	(3-2x)													(4-2x)		
ROOF & CEILING (1 STORY)	36	0	0	0	2	40	10	30	10	30	10	20	20		720	720	1	1	1
	36	0	0	0	4	40	10	30	10	30	10	20	20		720	1440	1	1	1
	36	0	0	0	6	40	10	30	10	30	10	20	20		720	2160	2	1	1
	36	0	0	0	8	40	10	30	10	30	10	20	20		720	2880	2	2	1
	36	0	0	0	10	40	10	30	10	30	10	20	20		720	3600	3	2	2
	36	0	0	0	12	40	10	30	10	30	10	20	20		720	4320	3	2	2
	36	0	0	0	14	40	10	30	10	30	10	20	20		720	5040	4	3	2
ROOF, CEILING, & 1 FLOOR (CTR BRG) (2 STORY)	36	0	18	0	2	40	10	30	10	30	10	20	20	80	1250	1250	1	1	1
	36	0	18	0	4	40	10	30	10	30	10	20	20	80	1250	2500	2	1	1
	36	0	18	0	6	40	10	30	10	30	10	20	20	80	1250	3750	2	2	1
	36	0	18	0	8	40	10	30	10	30	10	20	20	80	1250	5000	3	2	2
	36	0	18	0	10	40	10	30	10	30	10	20	20	80	1250	6250	4	3	2
	36	0	18	0	12	40	10	30	10	30	10	20	20	80	1250	7500	4	3	2
	36	0	18	0	14	40	10	30	10	30	10	20	20	80	1250	8750	5	3	3
ROOF, CEILING, & 1 FLOOR (CTR BRG) (2 STORY, CTR SUPPORT)	0	36	18	0	2	40	10	30	10	20	0	20	20	80	890	890	1	1	1
	0	36	18	0	4	40	10	30	10	20	0	20	20	80	890	1780	2	1	1
	0	36	18	0	6	40	10	30	10	20	0	20	20	80	890	2670	2	2	1
	0	36	18	0	8	40	10	30	10	20	0	20	20	80	890	3560	3	2	2
	0	36	18	0	10	40	10	30	10	20	0	20	20	80	890	4450	4	3	2
	0	36	18	0	12	40	10	30	10	20	0	20	20	80	890	5340	4	3	2
	0	36	18	0	14	40	10	30	10	20	0	20	20	80	890	6230	5	3	3
ROOF, CEILING, & 1 FLOOR (CLEAR SPAN) (2 STORY)	36	0	36	0	2	40	10	30	10	30	10	20	20	80	1700	1700	1	1	1
	36	0	36	0	4	40	10	30	10	30	10	20	20	80	1700	3400	2	2	1
	36	0	36	0	6	40	10	30	10	30	10	20	20	80	1700	5100	3	2	2
	36	0	36	0	8	40	10	30	10	30	10	20	20	80	1700	6800	4	3	2
	36	0	36	0	10	40	10	30	10	30	10	20	20	80	1700	8500	5	3	3
	36	0	36	0	12	40	10	30	10	30	10	20	20	80	1700	10200	6	4	3
	36	0	36	0	14	40	10	30	10	30	10	20	20	80	1700	11900	6	4	3
ROOF, CEILING, & 2 FLOORS (CTR BRG) (3 STORY)	36	0	18	18	2	40	10	30	10	30	10	20	20	160	1690	1690	1	1	1
	36	0	18	18	4	40	10	30	10	30	10	20	20	160	1690	3380	2	2	1
	36	0	18	18	6	40	10	30	10	30	10	20	20	160	1690	5070	3	2	2
	36	0	18	18	8	40	10	30	10	30	10	20	20	160	1690	6760	4	3	2
	36	0	18	18	10	40	10	30	10	30	10	20	20	160	1690	8450	5	3	3
	36	0	18	18	12	40	10	30	10	30	10	20	20	160	1690	10140	6	4	3
	36	0	18	18	14	40	10	30	10	30	10	20	20	160	1690	11830	7	5	4
ROOF, CEILING, & 2 FLOORS (CTR BRG) (3 STORY, CTR SUPPORT)	0	36	18	18	2	40	10	30	10	20	0	20	20	160	1330	1330	1	1	1
	0	36	18	18	4	40	10	30	10	20	0	20	20	160	1330	2660	2	2	1
	0	36	18	18	6	40	10	30	10	20	0	20	20	160	1330	3990	3	2	2
	0	36	18	18	8	40	10	30	10	20	0	20	20	160	1330	5320	4	3	2
	0	36	18	18	10	40	10	30	10	20	0	20	20	160	1330	6650	5	3	3
	0	36	18	18	12	40	10	30	10	20	0	20	20	160	1330	7980	6	4	3
	0	36	18	18	14	40	10	30	10	20	0	20	20	160	1330	9310	6	4	3
ROOF, CEILING, & 2 FLOORS (CLEAR SPAN) (3 STORY)	36	0	36	36	2	40	10	30	10	30	10	20	20	160	2500	2500	2	1	1
	36	0	36	36	4	40	10	30	10	30	10	20	20	160	2500	5000	3	2	2
	36	0	36	36	6	40	10	30	10	30	10	20	20	160	2500	7500	5	3	3
	36	0	36	36	8	40	10	30	10	30	10	20	20	160	2500	10000	6	4	3
	36	0	36	36	10	40	10	30	10	30	10	20	20	160	2500	12500	7	5	4
	36	0	36	36	12	40	10	30	10	30	10	20	20	160	2500	15000	9	6	5
	36	0	36	36	14	40	10	30	10	30	10	20	20	160	2500	17500	10	7	5
36	0	36	36	16	40	10	30	10	30	10	20	20	160	2500	20000	12	8	6	

FOOTNOTES:

1. Jack stud requirements are based on a roof span (W) of 36'. For other roof spans, the tabulated number of jack studs required at each end of the header shall be multiplied by (W/48 + 1/4).
2. Where the number of jack studs equal 1, the header shall be permitted to be supported by a framing anchor attached to the full-height wall stud.

ASSUMPTIONS:

- 50 1. FIRST FLOOR 50# PSF (40 PSF LIVE, 10 PSF DEAD)
- 40 2. SECOND FLOOR 40# PSF (30 PSF LIVE, 10 PSF DEAD)
- 20 3. ATTIC FLOOR 20# PSF (20PSF LIVE, 0 PSF DEAD)
- 30 4. ROOF 30# PSF (20 PSF LIVE, 10 PSF DEAD)