



Christchurch, 25th of July 2024

Juken New Zealand Ltd. – Stud Tables

The following stud tables are intended to be used by designers to select the appropriate J-Frame member for use as single storey and top storey studs, and for lower of two storey studs for the use in residential self-contained dwellings and meeting the requirements and intent of NZS 3604.

The design has been carried out to the AS/NZS 1170.1 suite and NZS AS 1720.1:2022 and assuming loadings in line with the document “Engineering Basis of NZS 3604:2011”. Detailed information about all design and loading assumptions can be found in the document 1132NZL – E001_B – Studs, available on request.

It remains the sole responsibility of the individual design professional to ensure the tables are applied in accordance with their intended use.



J-Frame 8

Single or top storey

Light or heavy roof, medium cladding, roof angle 0-45°, 1kPa ground snow load

Wind Zone	Loaded Dimension of wall (m)	Stud Sizes for maximum length (height) of: (m)																	
		2.4			2.7			3			3.6			4.2			4.8		
		At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)		
		300	400	600	300	400	600	300	400	600	300	400	600	300	400	600	300	400	600
Extra High	2.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45	**190x45	190x45	-
	4.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45	**190x45	190x45	-
	6.0	90x45	*140x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45	**190x45	190x45	-
Very High	2.0	90x45	90x45	*140x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45	**190x45	**190x45	-
	4.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	90x45	*140x45	*140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45	**190x45	**190x45	-
	6.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45	**190x45	**190x45	-
High	2.0	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	4.0	90x45	90x45	*140x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	6.0	90x45	90x45	*140x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
Medium	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45
Low and internal walls	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45

*140x45 can be substituted with 2/90x45

**190x45 can be substituted with 2/140x45



J-Frame 11

Single or top storey

Light or heavy roof, medium cladding, roof angle 0-45°, 1kPa ground snow load

Wind Zone	Loaded Dimension of wall (m)	Stud Sizes for maximum length (height) of: (m)																	
		2.4			2.7			3			3.6			4.2			4.8		
		At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)		
		300	400	600	300	400	600	300	400	600	300	400	600	300	400	600	300	400	600
Extra High	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
Very High	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45
High	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	**190x45
Medium	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45
Low and internal walls	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45

*140x45 can be substituted with 2/90x45

**190x45 can be substituted with 2/140x45



J-Frame 8

Lower of two storeys

1.5kPa floor loads (6.0m floor width), Light or heavy roof, medium cladding, roof angle 0-45°, 1kPa ground snow load

Wind Zone	Loaded Dimension of wall (m)	Stud Sizes for maximum length (height) of: (m)																	
		2.4			2.7			3			3.6			4.2			4.8		
		At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)		
		300	400	600	300	400	600	300	400	600	300	400	600	300	400	600	300	400	600
Extra High	2.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45	**190x45	190x45	-
	4.0	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45	**190x45	190x45	-
	6.0	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45	**190x45	190x45	-
Very High	2.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45	**190x45	**190x45	-
	4.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45	**190x45	**190x45	-
	6.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45	**190x45	**190x45	-
High	2.0	90x45	90x45	*140x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	4.0	90x45	90x45	*140x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	6.0	90x45	90x45	*140x45	90x45	*140x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	-
Medium	2.0	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	-
Low and internal walls	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45	140x45	140x45	-

*140x45 can be substituted with 2/90x45

**190x45 can be substituted with 2/140x45



J-Frame 11

Lower of two storeys

1.5kPa floor loads (6.0m floor width), Light or heavy roof, medium cladding, roof angle 0-45°, 1kPa ground snow load

Wind Zone	Loaded Dimension of wall (m)	Stud Sizes for maximum length (height) of: (m)																	
		2.4			2.7			3			3.6			4.2			4.8		
		At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)			At max. stud spacing of: (mm)		
		300	400	600	300	400	600	300	400	600	300	400	600	300	400	600	300	400	600
Extra High	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	**190x45	**190x45	**190x45	-
Very High	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	**190x45	140x45	**190x45	-
High	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	**190x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	**190x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	140x45	140x45	140x45	-
Medium	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	140x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	140x45	-
Low and internal walls	2.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45
	4.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	90x45	*140x45	*140x45	*140x45	*140x45	140x45
	6.0	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	90x45	*140x45	*140x45	*140x45	140x45	*140x45	*140x45	-

*140x45 can be substituted with 2/90x45

**190x45 can be substituted with 2/140x45

Christchurch, 25th of July 2024

Producer Statement: Juken New Zealand Ltd. – Stud Tables

PreStressed Timber Limited (PTL) has been engaged by Juken New Zealand Limited to provide structural engineering for the development of the J-Frame 8 and J-Frame 11 span tables. Span tables have been provided for single storey and top storey studs, and for lower of two storey studs for the use in residential self-contained dwellings and meeting the requirements and intent of NZS 3604.

The design has been carried out to the AS/NZS 1170.1 suite and NZS AS 1720.1:2022 and assuming loadings in line with the document “Engineering Basis of NZS 3604:2011”. The design used common and widely accepted engineering principles for LVL produced by Juken New Zealand Ltd.

I believe on reasonable grounds that the correct use of these tables for single storey and top storey studs, and for lower of two storey studs will meet the requirements of clause B1/VM1 of the NZ Building Code.

It remains the sole responsibility of the individual design professional to ensure the tables are applied in accordance with their intended use.

On behalf of PTL:

Francesco Sarti PhD CEngNZ CPEng



Technical Director
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