



I-Joist

Structural wooden I-beams with LVL flanges for floor, wall and ceiling applications

I-Joist beams consist of finger-jointed flanges made of high quality laminated veneer lumber glued to a structural OSB. A 10 mm core board reduces thermal bridges to a minimum. Although I-Joist beams are up to 50% lighter than massive wooden beams, they offer an exceptionally high load-bearing capacity, suitable for large spans. On request, I-Joist beams can be pre-insulated, -drilled and sawn slanted or straight, significantly facilitating work on construction sites.

Applications

- Walls
- Roofs
- Floors

Characteristics



Structural



Lightweight



I-Joist

Applications

I-Joist beams are an ideal material for constructing floors, particularly when large spans are involved. These I-beams are also a good choice for roofs and walls in timber constructions.

Technical specifications

Design characteristics

Design in compliance with EN 1995-1-1 (Eurocode 5)

I-joist	Height h (mm)	Characteristic bending moment M_k (kNm)	Characteristic shear force V_k (kN)	Bending stiffness EI ($Nmm^2 \times 10^9$)	Shearing stiffness GA (MN)
45	200	7,81	11,98	343	2,5
	240	9,78	14,07	536	3,18
	300	12,82	16,14	912	4,18
60	220	11,65	13,74	575	2,84
	240	12,94	14,81	709	3,18
	300	16,91	16,93	1203	4,18
	360	20,98	18,83	1836	5,19
90	400	23,61	20,01	2337	5,86
	220	17,37	14,82	857	2,84
	240	19,28	15,96	1056	3,18
	300	25,09	18,17	1785	4,18
	360	31,02	20,13	2714	5,19
	400	35,04	21,34	3447	5,86

I-Joist	Height (mm)	End support (kN)						Middle support (kN)					
		Web reinforcement 35mm		Web reinforcement 45mm		Web reinforcement 89mm		Web reinforcement 45mm		Web reinforcement 75mm		Web reinforcement 89mm	
		without	with	without	with	without	with	without	with	without	with	without	with
45	200	8,1	14,6	9,1	16,6	11,3	18,5	15,9	21,4	17,9	21,9	21,2	25,8
	240	8,1	15,2	9,1	17,2	11,3	19,1	15,9	22	17,9	22,5	21,2	26,4
	300	8,1	16,1	9,1	18,1	11,3	20	15,9	22,9	17,9	23,4	21,2	27,3
60	220	9,5	17,2	12,2	18	14,3	18,5	18,9	29,7	22,5	31,9	25,3	35,4
	240	9,5	17,5	12,2	18,3	14,3	18,8	18,9	30	22,5	32,2	25,3	35,7
	300	9,5	18,4	12,2	19,2	14,3	19,7	18,9	30,9	22,5	33,1	25,3	36,6
	360	9,5	19,3	12,2	20,1	14,3	20,6	18,9	31,8	22,5	34	25,3	37,5
90	400	9,5	19,9	12,2	20,7	14,3	21,2	18,9	32,4	22,5	34,6	25,3	38,1
	220	11,1	21,8	15,6	24,4	16,5	24,3	23,1	37,7	27,1	39,1	31,3	43,4
	240	11,1	22,1	15,6	24,7	16,5	24,6	23,1	38	27,1	39,4	31,3	43,7
	300	11,1	23	15,6	25,6	16,5	25,5	23,1	38,9	27,1	40,3	31,3	44,6
	360	11,1	23,9	15,6	26,5	16,5	26,4	23,1	39,8	27,1	41,2	31,3	45,5
	400	11,1	24,5	15,6	27,1	16,5	27	23,1	40,4	27,1	41,8	31,3	46,1

Notes:

1) The use of the I-Joist beams is only permitted in service classes 1 & 2.

2) Use appropriate design factors (k_{mod} , k_{def} , k_{sys} , γ_M) in design in accordance with 1995-1-1.

3) Permitted moment assumes full lateral support of the compression flange. Full support means a max. unclamped length of 400mm.

4) Web reinforcement for series: 220 en 240: minimum 2 rivets
 300: minimum 3 rivets
 360: minimum 5 rivets
 400: minimum 6 rivets
 With rivet diameter: $\geq 3,35\text{mm}$

Available dimensions and thicknesses

I-Joist beams are available in stock. Consult the complete UNILIN, division panels stock range at www.unilinpanels.com.

For our technical capabilities on custom thicknesses and dimensions, as well as minimum order requirements, please contact our sales team or email info.panels@unilin.com.

Certificates

UNILIN, division panels is actively committed to sustainable forest management.

