

DIMENSIONING AID

GLULAM

Using glulam there has to be considered:

- The demands on wood are, mainly outdoors, very strong because of temperature- and humidity-fluctuations. Shrinkage cracks can also appear in glulam, even though in a considerably minor amount as in solid wood.
- Due to the different structure of the glued lamellae, shrinkage cracks often run alongside the glue-joints. This is not a defect but a characteristic of the material. Shrinkage cracks with up to 1/6 of the constructional element width do not influence security and are covered by the permissible tensions as per DIN 1052.

Dimensioning aid for glulam

Permissible bending stress = 11 N/mm²

E-module = 11000 N/mm²

Strength class GL 24h (BS 11) as per EN DIN 1194

fire resistance: F30 permitted

Bending: L/300

Loading kN/m	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
Span											
1.0	6/12	6/12	6/12	6/12	6/14	6/14	6/14	6/14	6/14	6/16	6/16
	8/10	8/10	8/10	8/10	8/10	8/10	8/10	8/12	8/12	8/12	8/12
2.0	6/14	6/16	6/18	6/20	8/16	8/18	8/18	8/20	8/20	8/20	8/22
	8/10	8/12	8/14	8/16	10/14	10/14	10/16	10/16	10/18	10/18	10/20
3.0	10/10	10/12	10/12	10/12	12/12	12/14	12/14	12/16	12/16	12/16	12/18
	6/20	8/18	8/20	8/22	8/22	8/24	10/24	10/24	10/26	10/26	10/28
4.0	8/16	10/16	10/18	10/18	10/20	10/22	12/22	12/22	12/24	12/24	12/26
	10/14	12/16	12/16	12/18	12/18	12/20	12/20	14/20	14/20	14/22	14/24
	12/14	14/14	14/16	14/18	14/18	14/18	16/18	16/20	16/20	16/22	16/22
	8/20	8/22	8/24	10/24	10/26	10/28	12/28	12/30	12/32	12/32	12/36
5.0	10/18	10/22	10/24	12/24	12/24	12/26	14/28	14/28	14/28	14/30	14/32
	12/18	12/20	12/22	14/22	14/24	14/24	16/24	16/26	16/28	16/28	16/30
	14/16	14/20	14/20	16/22	16/22	16/24	18/24	18/24	18/26	18/26	18/28
	8/24	10/26	10/28	12/30	12/30	12/32	12/36	12/36	14/40	12/40	14/40
6.0	10/24	12/24	12/28	14/28	14/30	14/30	14/32	14/36	14/36	14/40	16/36
	12/22	14/24	14/26	16/26	16/28	16/30	16/30	16/32	16/36	16/36	18/36
	14/20	16/22	16/24	18/26	18/28	18/28	18/30	18/30	18/32	18/36	20/32
	10/28	12/30	12/32	12/36	12/36	12/40	14/40	14/40	16/40	16/44	16/44
7.0	16/26	14/28	14/30	14/36	14/36	14/36	16/36	16/40	18/40	18/40	18/44
	14/24	16/26	16/30	16/32	16/36	16/36	18/36	18/36	20/36	20/40	20/40
	16/24	18/26	18/28	18/30	18/32	18/36	20/36	20/36			
	12/30	12/36	12/40	12/40	14/40	16/40	16/44	16/44	18/44	20/44	
8.0	14/28	14/32	14/36	14/40	16/40	18/40	18/44	18/44	20/44		
	16/28	16/32	16/36	16/36	18/40	20/40	20/40	20/44			
	18/26	18/30	18/32	18/36	20/36						
	12/36	12/40	14/40	16/44	16/44	18/44					
9.0	14/32	14/40	16/40	18/40	18/44	20/44					
	16/32	16/36	18/40	20/40	20/44						
	18/30	20/32	20/36								
	12/40	16/40	16/44	20/44							
10.0	14/36	18/40	18/44								
	20/32	20/36	20/40								
	14/40	16/44									
	16/40	18/44									
	20/36	20/40									

This schedule contains guiding values. There has to be made a correct structural analysis before execution.