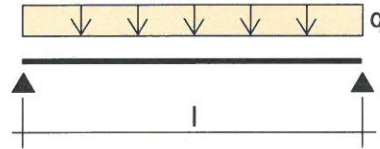


Span table

Glulam span table for single span beams

These tables are only to be used for pre-dimensioning purposes. A precise structural analysis must be carried out in accordance with the currently applicable dimensioning standards in every case prior to implementation.



System assumptions:

- Uniform loading
- Girder is supported against lateral shifting; no danger of tilting
- Uniform load q is composed of:
 - g: permanent load, incl. dead load of the beam
 - p: live load or snow load
- Shear and creep deformations are not taken into account

Material assumptions: GL 24h (BS 11)

Material properties for BS 11 acc. to DIN 1052-1988:

- $E = 11,000$ [N/mm²] Modulus of elasticity
- $\sigma_{b,zul} = 11$ [N/mm²] Permissible bending stress
- $\tau_{zul} = 1.2$ [N/mm²] Permissible shear stress
- $f_{zul} = l/300$ [m] Permissible deformation

Leading design criteria:

- Deflection
- Modulus
- Shear force

[mm]		Maximum permissible spans at widths 100 – 320 mm / q [kN/m]																			
B	H	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	15.0	20.0	25.0	30.0
80	100	2.66 f	2.32 f	2.11 f	1.96 f	1.84 f	1.75 f	1.67 f	1.61 f	1.53 M	1.40 M	1.29 M	1.21 M	1.14 M	1.08 M	1.03 M	0.99 M	0.85 Q	0.64 Q	0.51 Q	0.43 Q
100	100	2.86 f	2.50 f	2.27 f	2.11 f	1.99 f	1.89 f	1.80 f	1.73 f	1.67 f	1.56 M	1.45 M	1.35 M	1.28 M	1.21 M	1.15 M	1.11 M	0.99 M	0.80 Q	0.64 Q	0.53 Q
80	120	3.19 f	2.79 f	2.53 f	2.35 f	2.21 f	2.10 f	2.01 f	1.93 f	1.84 M	1.68 M	1.55 M	1.45 M	1.37 M	1.30 M	1.24 M	1.19 M	1.02 Q	0.77 Q	0.61 Q	0.51 Q
100	120	3.44 f	3.00 f	2.73 f	2.53 f	2.38 f	2.26 f	2.16 f	2.08 f	2.01 f	1.88 M	1.74 M	1.62 M	1.53 M	1.45 M	1.39 M	1.33 M	1.19 M	0.96 Q	0.77 Q	0.64 Q
120	120	3.65 f	3.19 f	2.90 f	2.69 f	2.53 f	2.40 f	2.30 f	2.21 f	2.14 f	2.01 f	1.90 M	1.78 M	1.68 M	1.59 M	1.52 M	1.45 M	1.30 M	1.13 M	0.92 Q	0.77 Q
80	160	4.25 f	3.71 f	3.38 f	3.13 f	2.95 f	2.80 f	2.68 f	2.58 f	2.45 M	2.24 M	2.07 M	1.94 M	1.83 M	1.73 M	1.65 M	1.58 M	1.37 Q	1.02 Q	0.82 Q	0.68 Q
100	160	4.58 f	4.00 f	3.64 f	3.38 f	3.18 f	3.02 f	2.89 f	2.77 f	2.68 f	2.50 M	2.32 M	2.17 M	2.04 M	1.94 M	1.85 M	1.77 M	1.58 M	1.28 Q	1.02 Q	0.85 Q
120	160	4.87 f	4.25 f	3.86 f	3.59 f	3.38 f	3.21 f	3.07 f	2.95 f	2.85 f	2.68 f	2.54 M	2.37 M	2.24 M	2.12 M	2.02 M	1.94 M	1.73 M	1.50 M	1.23 Q	1.02 Q
140	160	5.12 f	4.48 f	4.07 f	3.78 f	3.55 f	3.38 f	3.23 f	3.10 f	3.00 f	2.82 f	2.68 f	2.56 f	2.42 M	2.29 M	2.19 M	2.09 M	1.87 M	1.62 M	1.43 Q	1.19 Q
160	160	5.36 f	4.68 f	4.25 f	3.95 f	3.71 f	3.53 f	3.38 f	3.25 f	3.13 f	2.95 f	2.80 f	2.68 f	2.58 f	2.45 M	2.34 M	2.24 M	2.00 M	1.73 M	1.55 M	1.37 Q
100	200	5.73 f	5.00 f	4.54 f	4.22 f	3.97 f	3.77 f	3.61 f	3.47 f	3.35 f	3.13 M	2.89 M	2.71 M	2.55 M	2.42 M	2.31 M	2.21 M	1.98 M	1.60 Q	1.28 Q	1.07 Q
120	200	6.08 f	5.32 f	4.83 f	4.48 f	4.22 f	4.01 f	3.83 f	3.69 f	3.56 f	3.35 f	3.17 M	2.97 M	2.80 M	2.65 M	2.53 M	2.42 M	2.17 M	1.88 M	1.54 Q	1.28 Q
140	200	6.41 f	5.60 f	5.08 f	4.72 f	4.44 f	4.22 f	4.04 f	3.88 f	3.75 f	3.53 f	3.35 f	3.20 f	3.02 M	2.87 M	2.73 M	2.62 M	2.34 M	2.03 M	1.79 Q	1.49 Q
160	200	6.70 f	5.85 f	5.32 f	4.93 f	4.64 f	4.41 f	4.22 f	4.06 f	3.92 f	3.69 f	3.50 f	3.35 f	3.22 f	3.06 M	2.92 M	2.80 M	2.50 M	2.17 M	1.94 M	1.71 Q
180	200	6.97 f	6.08 f	5.53 f	5.13 f	4.83 f	4.59 f	4.39 f	4.22 f	4.07 f	3.83 f	3.64 f	3.48 f	3.35 f	3.23 f	3.10 M	2.97 M	2.65 M	2.30 M	2.06 M	1.88 M
200	200	7.21 f	6.30 f	5.73 f	5.32 f	5.00 f	4.75 f	4.54 f	4.37 f	4.22 f	3.97 f	3.77 f	3.61 f	3.47 f	3.35 f	3.24 f	3.13 M	2.80 M	2.42 M	2.17 M	1.98 M
100	240	6.87 f	6.00 f	5.45 f	5.06 f	4.76 f	4.53 f	4.33 f	4.16 f	4.02 f	3.75 M	3.47 M	3.25 M	3.06 M	2.91 M	2.77 M	2.65 M	2.37 M	1.92 Q	1.54 Q	1.28 Q
120	240	7.30 f	6.38 f	5.80 f	5.38 f	5.06 f	4.81 f	4.60 f	4.42 f	4.27 f	4.02 f	3.81 M	3.56 M	3.36 M	3.18 M	3.04 M	2.91 M	2.60 M	2.25 M	1.84 Q	1.54 Q
140	240	7.69 f	6.71 f	6.10 f	5.66 f	5.33 f	5.06 f	4.84 f	4.66 f	4.50 f	4.23 f	4.02 f	3.84 f	3.63 M	3.44 M	3.28 M	3.14 M	2.81 M	2.43 M	2.15 Q	1.79 Q
160	240	8.04 f	7.02 f	6.38 f	5.92 f	5.57 f	5.29 f	5.06 f	4.87 f	4.70 f	4.42 f	4.20 f	4.02 f	3.86 f	3.68 M	3.51 M	3.36 M	3.00 M	2.60 M	2.33 M	2.05 Q
180	240	8.36 f	7.30 f	6.63 f	6.16 f	5.80 f	5.51 f	5.27 f	5.06 f	4.89 f	4.60 f	4.37 f	4.18 f	4.02 f	3.88 f	3.72 M	3.56 M	3.18 M	2.76 M	2.47 M	2.25 M
200	240	8.66 f	7.56 f	6.87 f	6.38 f	6.00 f	5.70 f	5.45 f	5.24 f	5.06 f	4.76 f	4.53 f	4.33 f	4.16 f	4.02 f	3.89 f	3.75 M	3.36 M	2.91 M	2.60 M	2.37 M
240	240	9.20 f	8.04 f	7.30 f	6.78 f	6.38 f	6.06 f	5.80 f	5.57 f	5.38 f	5.06 f	4.81 f	4.60 f	4.42 f	4.27 f	4.14 f	4.02 f	3.68 M	3.18 M	2.85 M	2.60 M
100	280	8.02 f	7.00 f	6.36 f	5.91 f	5.56 f	5.28 f	5.05 f	4.86 f	4.69 f	4.38 M	4.05 M	3.79 M	3.57 M	3.39 M	3.23 M	3.10 M	2.77 M	2.24 Q	1.79 Q	1.49 Q
120	280	8.52 f	7.44 f	6.76 f	6.28 f	5.91 f	5.61 f	5.37 f	5.16 f	4.98 f	4.69 f	4.44 M	4.15 M	3.92 M	3.71 M	3.54 M	3.39 M	3.03 M	2.63 M	2.15 Q	1.79 Q
140	280	8.97 f	7.83 f	7.12 f	6.61 f	6.22 f	5.91 f	5.65 f	5.43 f	5.24 f	4.94 f	4.69 f	4.48 f	4.23 M	4.01 M	3.83 M	3.66 M	3.28 M	2.84 M	2.51 Q	2.09 Q
160	280	9.38 f	8.19 f	7.44 f	6.91 f	6.50 f	6.18 f	5.91 f	5.68 f	5.48 f	5.16 f	4.90 f	4.69 f	4.51 f	4.29 M	4.09 M	3.92 M	3.50 M	3.03 M	2.71 M	2.39 Q
180	280	9.75 f	8.52 f	7.74 f	7.18 f	6.76 f	6.42 f	6.14 f	5.91 f	5.70 f	5.37 f	5.10 f	4.88 f	4.69 f	4.53 f	4.34 M	4.15 M	3.71 M	3.22 M	2.88 M	2.63 M
200	280	10.10 f	8.82 f	8.02 f	7.44 f	7.00 f	6.65 f	6.36 f	6.12 f	5.91 f	5.56 f	5.28 f	5.05 f	4.86 f	4.69 f	4.54 f	4.38 M	3.92 M	3.39 M	3.03 M	2.77 M
240	280	10.73 f	9.38 f	8.52 f	7.91 f	7.44 f	7.07 f	6.76 f	6.50 f	6.28 f	5.91 f	5.61 f	5.37 f	5.16 f	4.98 f	4.83 f	4.69 f	4.29 M	3.71 M	3.32 M	3.03 M
120	320	9.74 f	8.50 f	7.73 f	7.17 f	6.75 f	6.41 f	6.13 f	5.90 f	5.69 f	5.36 f	5.07 M	4.75 M	4.47 M	4.25 M	4.05 M	3.88 M	3.47 M	3.00 M	2.46 Q	2.05 Q
140	320	10.25 f	8.95 f	8.13 f	7.55 f	7.11 f	6.75 f	6.46 f	6.21 f	5.99 f	5.64 f	5.36 f	5.12 f	4.83 M	4.59 M	4.37 M	4.19 M	3.74 M	3.24 M	2.87 Q	2.39 Q
160	320	10.72 f	9.36 f	8.50 f	7.90 f	7.43 f	7.06 f	6.75 f	6.49 f	6.27 f	5.90 f	5.60 f	5.36 f	5.15 f	4.90 M	4.67 M	4.47 M	4.00 M	3.47 M	3.10 M	2.73 Q
180	320	11.14 f	9.74 f	8.85 f	8.21 f	7.73 f	7.34 f	7.02 f	6.75 f	6.52 f	6.13 f	5.83 f	5.57 f	5.36 f	5.17 f	4.96 M	4.75 M	4.25 M	3.68 M	3.29 M	3.00 M
200	320	11.54 f	10.08 f	9.16 f	8.50 f	8.00 f	7.60 f	7.27 f	6.99 f	6.75 f	6.35 f	6.03 f	5.77 f	5.55 f	5.36 f	5.19 f	5.00 M	4.47 M	3.88 M	3.47 M	3.16 M
240	320	12.27 f	10.72 f	9.74 f	9.04 f	8.50 f	8.08 f	7.73 f	7.43 f	7.17 f	6.75 f	6.41 f	6.13 f	5.90 f	5.69 f	5.52 f	5.36 f	4.90 M	4.25 M	3.80 M	3.47 M