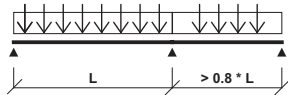


BBS predimensioning



g _{1,k} +n _k	span width													
	3.0 m		3.5 m		4.0 m		4.5 m		5.0 m		5.5 m		6.0 m	
	permitted deflection													
	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350
2.0		78	90	90	90	110-5s	110-5s	130-5s	130-5s	147	147	147	147	163
2.5	78		90	100-5s	110-5s	130-5s	130-5s	147	147	147	147	147	147	181
3.0		90	90	110-5s	110-5s	130-5s	130-5s	147	147	147	147	147	147	203
3.5	90	90	100-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	213
4.0		100-5s	110-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	233
4.5	90	100-5s	110-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	248
5.0		110-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	284
5.5	100-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	
6.0		130-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	
6.5	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	
7.0		130-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	
7.5	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	
8.0		130-5s	130-5s	130-5s	130-5s	130-5s	147	147	147	147	147	147	147	

duel span



The length of the shorter field is between 80 % and 100 % of the longer field.

g _{1,k} +n _k	span width longer field													
	3.0 m		3.5 m		4.0 m		4.5 m		5.0 m		5.5 m		6.0 m	
	permitted deflection													
	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350	I/250	I/350
2.0				78			100-5s	100-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
2.5			78		90		110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
3.0		78			90	100-5s	100-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
3.5			78			110-3s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
4.0	78			90		100-5s	100-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
4.5				100-5s		100-5s	100-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
5.0			90			110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
5.5				100-5s		110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
6.0		90				110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
6.5				100-5s		110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
7.0	90			100-5s		110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
7.5				100-5s		110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147
8.0		100-5s				110-5s	110-5s	130-5s	130-5s	130-5s	130-5s	130-5s	130-5s	147

- R30 3s... 3-layers
- R60 5s... 5-layers
- R90

dimensioning according to Eurocode 5 and European Technical Approval (EN 1995-1-1:2004 und ETA/0009:2006)

requirements:

- * service class 1 (interior space k_{ser}=0.6)
- * self weight g_{1,k}: is dead load without dead load of BBS
- * imposed load n_k: service classes A und B (living and office space: ψ₁=0.7 ψ₂=0.5 ψ₃=0.3 middle load duration, k_{mod}=0.8)
- * dimensioning in the case of fire according to EN 1995-1-2 and survey IBS-08012901:2008-06 (characteristical combustion rate for ceilings β_s=0.74mm/min)
- * imposed load amounts to 50 % of the total load

limiting values for deflection for serviceability limit states:

- * appearance: permitted long-term bending with a quasi-permanent design situation I/250 respectively I/350

cross section values:

calculation of BBS cross sections according to the Gamma-method. For continuous beam l_{cr}= 4/5 * l

These tables may be used for predimensioning BBS and do not replace static calculations. The strain is to be seen as evenly divided area load.