

FORMWORK BEAMS **PF20_{PLUS}** | **PF20**

Pfeifer PF20 and PF20plus formwork beams are solid web girders and subject to supervision level M acc. EN13377 in connection with DIN V20000-2.

Monitoring and certification by material research laboratory at the University of Stuttgart. Certificate of compliance no.: ÜZ-BWU03-I 14.24.40

Product range

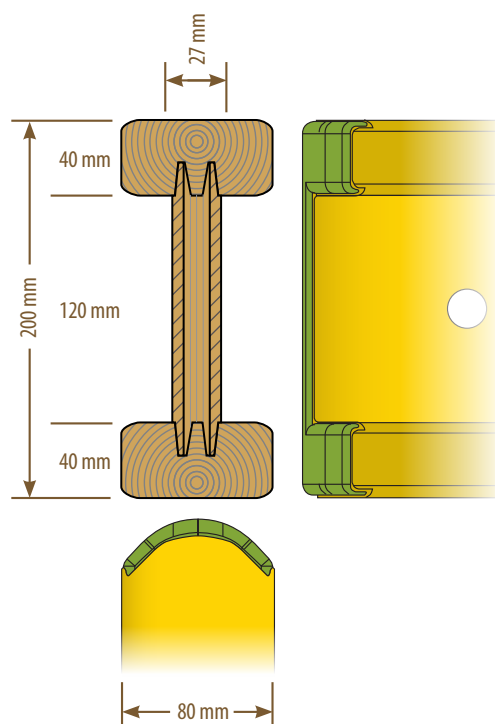
- Lengths: 245, 250, 265, 275, 290, 300, 330, 360, 390, 450, 490, 590 cm
- PF20_{plus}: protection cap possible up to 9 m – over 9 m only cut straight
- PF20: rounding with sealing possible up to 9 m – over 9 m only cut straight
- Special lengths possible up to 11.90 m

Characteristic limits

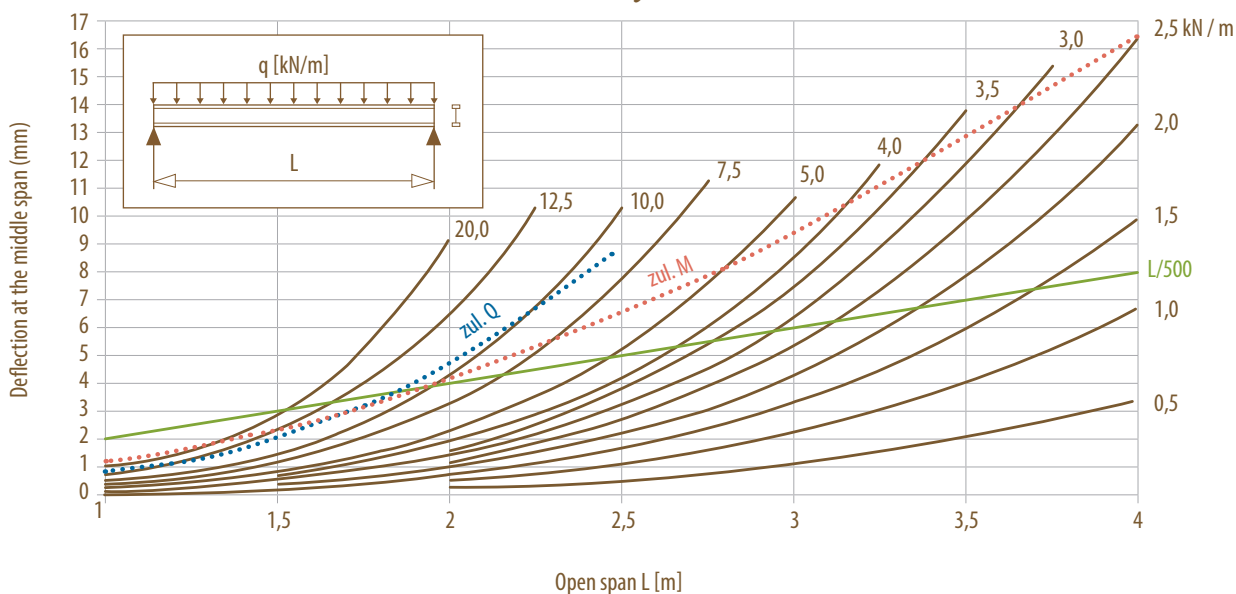
- | | |
|--------------------|-----------------------------|
| Lateral force | $V_k = 23.9 \text{ kN}$ |
| Contact resistance | $R_{b,k} = 47.8 \text{ kN}$ |
| Bending moment | $M_k = 10.9 \text{ kNm}$ |
| Rigidity I | $E_I = 450 \text{ kNm}^2$ |

Measurements

- Size tolerance: height $H=200 \pm 2 \text{ mm}$
Length tolerance: specified length $\pm 10 \text{ mm}$
- Weight: approx. 4.5 kg/rm



Formwork beam deflection



CONSTRUCTION

Permissible values:

- ≡ Shear force $Q = 11 \text{ kN}$
- ≡ A support reaction $A = 22 \text{ kN}$
- ≡ Bending moment $M = 5 \text{ kN}$
- ≡ The chords are mechanically tested for stress grading.

Formwork beam features:

- ≡ Girder length
- ≡ Manufacturer information: name, logo
- ≡ Custom labeling, client logos possible
- ≡ Girder types
- ≡ Classification
- ≡ Monitoring level M
- ≡ Product identification number
- ≡ Country of origin

Measuring table forms:

To calculate table forms please see the two tables to the right with the maximum permissible yoke, cross and support beam spacing. The specified influence lines may not be exceeded anywhere.

Regulations for installation:

- ≡ The fitting of the formwork beams must be carried out by professional and trained staff according to our application and safety indication.
- ≡ The permissible open span of the PF20 and the PF20plus may not exceed 4,0 m.
- ≡ The sheeting is to be nailed directly onto the upper chord.
- ≡ Wooden formwork beams are only to be used in an upright position. In addition, they are to be secured against tipping according to static requirements.
- ≡ Changes of the product are prohibited and can cause increased hazard potential.

Regulations of use:

- ≡ Every item must be inspected by the installation firm and may only be used if in perfect condition.
- ≡ Formwork beams that are damaged or weakened by decay are not to be used.
- ≡ Please observe that the formwork beams should not be stored in a way that they are exposed to heavy climatic influences and should not be stored outside unprotected. A professional storage increases the general endurance and reduces deformation and crack formation.

Measurement table:

Example:

Given: Ceiling thickness (18 cm) + cross-beam spacing (75 cm)

Sought: Yoke-beam spacing + support spacing

- 1 Ceiling thickness: 18 cm
- 2 Cross-beam spacing: 75 cm
- 3 Permissible yoke-beam spacing according to table 1 = 2.65 m
- 4 Select same or next smaller yoke-beam spacing in table 2 = 2.5 m
- 5 Choose value 2.50 in table 2, choose the value for ceiling thickness (18 cm) and read the permissible support spacing value: 1.36 m
- 6 Attention: The corresponding bearing capacity of the supports must be verified!

		Table 1					Table 2									
Floor thickness (cm)	Total load kN/m ²	Cross-beam spacing (m)					Yoke-beam spacing (m)									
		0,50	0,63	0,67	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50	3,00	3,50		
		Max. distance between cross beams (m)					Max. distance between yoke-beams (m) = max. distance between ceiling support beams									
10	4,40	3,63	3,37	3,29	3,17	2,88	2,67	2,46	2,28	2,13	2,01	1,91	1,67	1,43		
12	4,92	3,43	3,19	3,12	3,00	2,72	2,53	2,33	2,16	2,02	1,90	1,79	1,49	1,28		
14	5,44	3,27	3,04	2,97	2,86	2,60	2,41	2,41	2,05	1,92	1,80	1,62	1,35	1,16		
16	5,96	3,14	2,92	2,85	2,74	2,49	2,31	2,12	1,90	1,83	1,64	1,48	1,23	1,05		
18	6,48	3,03	2,81	2,75	2,65	2,40	2,22	2,03	1,88	1,70	1,51	1,36	1,13	0,97		
20	7,00	2,93	2,72	2,66	2,56	2,32	2,14	1,95	1,80	1,57	1,40	1,2	1,05	0,90		
22	7,52	2,84	2,64	2,58	2,48	2,26	2,06	1,88	1,67	1,46	1,30	1,17	0,98	0,84		
24	8,04	2,76	2,57	2,51	2,42	2,19	2,00	1,82	1,56	1,37	1,22	1,09	0,91	0,78		
26	8,56	2,70	2,50	2,45	2,35	2,14	1,93	1,71	1,47	1,29	1,14	1,03	0,86	0,73		
28	9,08	2,63	2,44	2,39	2,30	2,09	1,88	1,62	1,38	1,21	1,08	0,97	0,81	0,69		
30	9,66	2,57	2,39	2,34	2,25	2,03	1,82	1,52	1,30	1,14	1,01	0,91	0,76	0,65		
35	11,22	2,45	2,27	2,23	2,14	1,89	1,57	1,31	1,12	0,98	0,87	0,78	0,65	0,56		
40	12,78	2,35	2,18	2,13	2,04	1,72	1,38	1,15	0,98	0,86	0,77	0,69	0,57	0,49		
45	14,34	2,26	2,10	2,04		1,53	1,23	1,02	0,88	0,77	0,68	0,61	0,51	0,44		
50	15,90	2,18	2,01	1,94		1,38	1,11	0,92	0,79	0,69	0,61	0,55	0,46	0,40		

The girder deflection is limited to $L/500$.

Live load $1,5 \text{ kN/m}^2$ or 20 % of concrete weight.

