



# PFEIFER

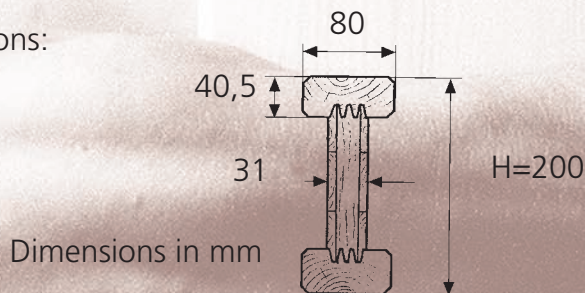
Holzindustrie Pfeifer GmbH & Co KG  
Brennbichl 103, A-6460 Imst/Tirol  
Tel.: +43-5412-6960-0  
Fax.: +43-5412-6960-200  
E-mail: info@holz-pfeifer.com  
web: www.holz-pfeifer.com

## PFEIFER S-20 TIMBER FORMWORK BEAMS

Pfeifer S-20 timber formwork beams are panel web beams conforming to EN 13377.

- 1) The beams are manufactured according to the general building supervision license of the German Institute of Structural Engineering. Licence number: Z – 9.1 – 299
- 2) Length: 245 (8'), 250, 265 (8,7'), 275, 290 (9,5'), 300, 330 (10,8'), 360 (11,8'), 390 (12,8'), 450 (14,7'), 490 (16'), 590 (19,3') cm (Inch)  
Special lengths up to 12 m are available

- 3) Dimensions:



- 4) Dimension tolerances: Height  $H=200 \pm 2$  mm length tolerance: specified length  $\pm 10$  mm
- 5) Weight: 4,6 kg/m
- 6) Identification of the beam:
  - Licence number (Z – 9.1 – 299)
  - Beam length
  - Date of manufacture
  - U mark

- 7) Instructions for dimensions:

- 7.1) the admissible transverse force
- 7.2) the admissible bending moment

$Q_{perm} = 11,0$  kN  
 $M_{perml} = 5,0$  kNm  
 $EJ = 450$  kNm<sup>2</sup>  
 $J = 4180$  cm<sup>4</sup>

Characteristic limit value:

$V_k = 23,9$  kN  
 $M_k = 10,9$  kNm

- 7.3) For dimensioning ceiling thicknesses we refer to our table giving the maximum permissible pile beams and distances between supports.

The cutting conditions specified in the following must not be exceeded at any place on the timber formwork support:

- 8) Provisions for the Execution:

The span of the timber formwork support may not exceed 4.00 m.  
The formwork shell is to be placed directly on the upper boom and nailed on. The timber formwork supports are to be secured against tilting according to static requirements.

- 9) Provisions for Usage, Maintenance, Service:

Before every usage of the timber formwork supports, these are to be checked for perfect condition by the installation firm. Supports weakened due to damage or rotting are to be excluded from use.

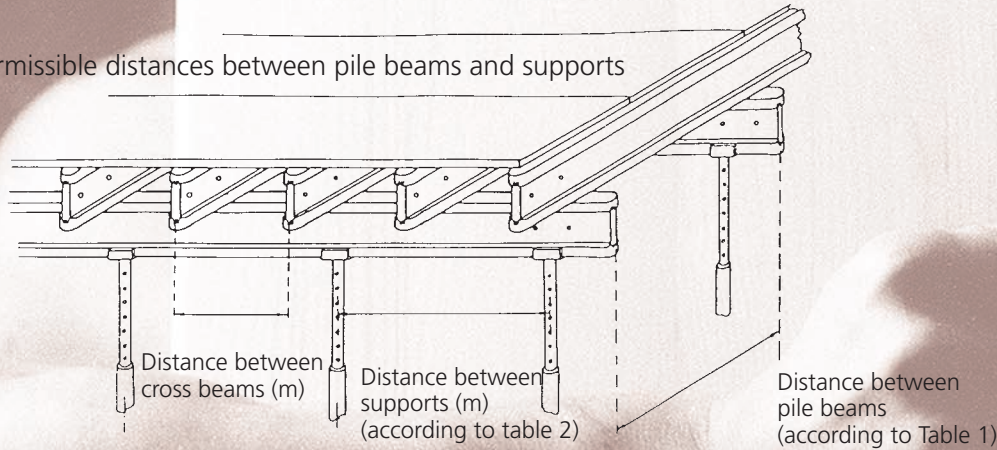


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 Fax.: +43-5412-6960-200  
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 web: www.holz-pfeifer.com

## PFEIFER S-20 TMBER FORMWORK BEAMS

Maximum permissible distances between pile beams and supports



|                         |                              | Table 1 = max. spacing of yoke beams m |      |      |      | Table 2 = Spacing of supports (m)  |      |      |      |      |      |      |      |      |  |
|-------------------------|------------------------------|--|------|------|------|------------------------------------|------|------|------|------|------|------|------|------|--|
|                         |                              | Spacing of crossbeams                  |      |      |      | Selected spacing of yoke beams (m) |      |      |      |      |      |      |      |      |  |
| Ceiling thickness in cm | Total load kN/m <sup>2</sup> | 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 |  |
| 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 | 2,21 | 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 | 1,96 | 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 | 1,26 | 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 deflection of the beams is limited to L/500, traffic load 1.5 kN/m<sup>2</sup> or 20 % of the fresh concrete weight

**Example:** given: ceiling thickness (18 cm) + crossbeam spacing (0.75 m)  
 sought: yoke beam spacing + support spacing

- 1) Ceiling thickness: 18 cm
- 2) Crossbeam spacing: 75 cm
- 3) Permissible yoke beam spacing as in Table 1 = 2.65 m
- 4) Select same or next smallest yoke beam spacing in Table 2 = 2.5 m
- 5) In Table 2 column 2,5 read off the permissible support spacing as a function of the ceiling thickness: 1.36 m
- 6) Caution, the supports should be checked for the corresponding bearing capacity.