

BBS characteristic values

cross section

| layers | thickness [mm] | construction [mm] | | | | | | l_{eff} [m] | characteristic values | | | | | |
|--------|-------------------|-------------------|----|----|----|----|--|----------------------|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|-----------------------|------|
| | | | | | | | | | A_{eff} [cm ²] | $A_{V,\text{eff}}$ [cm ²] | W_{eff} [cm ³] | I_{eff} [cm ⁴] | i_{eff} [cm] | |
| 3 | 66 ¹⁾ | 20 | 26 | 20 | | | | 2 | 400 | 648 | 659 | 1988 | 2.23 | |
| | | | | | | | | 4 | | 710 | 676 | 2177 | 2.33 | |
| | | | | | | | | 6 | | 723 | 679 | 2217 | 2.35 | |
| | 78 | 20 | 38 | 20 | | | | 2 | 400 | 756 | 858 | 2922 | 2.70 | |
| | | | | | | | | 4 | | 862 | 887 | 3332 | 2.89 | |
| | | | | | | | | 6 | | 885 | 892 | 3422 | 2.92 | |
| | 90 | 27 | 36 | 27 | | | | 2 | 540 | 806 | 1189 | 4568 | 2.91 | |
| | | | | | | | | 4 | | 944 | 1244 | 5355 | 3.15 | |
| | | | | | | | | 6 | | 976 | 1255 | 5534 | 3.20 | |
| | 100 ²⁾ | 37 | 26 | 37 | | | | 2 | 740 | 858 | 1533 | 6667 | 3.00 | |
| | | | | | | | | 4 | | 996 | 1610 | 7737 | 3.23 | |
| | | | | | | | | 6 | | 1027 | 1625 | 7980 | 3.28 | |
| | 110 ²⁾ | 36 | 38 | 36 | | | | 2 | 720 | 897 | 1771 | 7966 | 3.33 | |
| | | | | | | | | 4 | | 1103 | 1889 | 9797 | 3.69 | |
| | | | | | | | | 6 | | 1154 | 1914 | 10244 | 3.77 | |
| | 130 ²⁾ | 43 | 44 | 43 | | | | 2 | 860 | 968 | 2404 | 12077 | 3.75 | |
| | | | | | | | | 4 | | 1263 | 2622 | 15747 | 4.28 | |
| | | | | | | | | 6 | | 1341 | 2669 | 16720 | 4.41 | |
| 5 | 100 | 20 | 20 | 20 | 20 | 20 | | 2 | 600 | 963 | 1273 | 5458 | 3.02 | |
| | | | | | | | | 4 | | 1107 | 1308 | 6270 | 3.23 | |
| | | | | | | | | 6 | | 1138 | 1315 | 6449 | 3.28 | |
| | 110 | 20 | 21 | 28 | 21 | 20 | | | 2 | 680 | 1039 | 1482 | 6912 | 3.19 |
| | | | | | | | | | 4 | | 1199 | 1518 | 7979 | 3.43 |
| | | | | | | | | | 6 | | 1235 | 1525 | 8216 | 3.48 |
| | 130 | 20 | 26 | 38 | 26 | 20 | | | 2 | 780 | 1175 | 1896 | 10027 | 3.59 |
| | | | | | | | | | 4 | | 1393 | 1938 | 11893 | 3.90 |
| | | | | | | | | | 6 | | 1443 | 1946 | 12323 | 3.97 |
| | 147 | 41 | 22 | 21 | 22 | 41 | | | 2 | 1030 | 1123 | 2976 | 16689 | 4.03 |
| | | | | | | | | | 4 | | 1464 | 3211 | 21748 | 4.60 |
| | | | | | | | | | 6 | | 1553 | 3260 | 23071 | 4.73 |
| | 163 | 42 | 21 | 37 | 21 | 42 | | | 2 | 1210 | 1242 | 3626 | 22449 | 4.31 |
| | | | | | | | | | 4 | | 1610 | 3880 | 29116 | 4.91 |
| | | | | | | | | | 6 | | 1706 | 3933 | 30850 | 5.05 |
| | 181 | 42 | 38 | 21 | 38 | 42 | | | 2 | 1050 | 1163 | 3958 | 23052 | 4.69 |
| | | | | | | | | | 4 | | 1748 | 4437 | 34663 | 5.75 |
| | | | | | | | | | 6 | | 1933 | 4541 | 38323 | 6.04 |
| 203 | 42 | 38 | 43 | 38 | 42 | | | 2 | 1270 | 1290 | 4844 | 31063 | 4.95 | |
| | | | | | | | | 4 | | 1937 | 5351 | 46641 | 6.06 | |
| | | | | | | | | 6 | | 2141 | 5459 | 51552 | 6.37 | |
| 213 | 42 | 43 | 43 | 43 | 42 | | | 2 | 1270 | 1291 | 5127 | 32905 | 5.09 | |
| | | | | | | | | 4 | | 2010 | 5712 | 51216 | 6.35 | |
| | | | | | | | | 6 | | 2248 | 5838 | 57272 | 6.72 | |

¹⁾ only available with a length of 4.95 m, without general finger joint

²⁾ only available in non visible C


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cross section

| layers | thickness [mm] | construction [mm] | | | | | | | l_{eff} [m] | characteristic values | | | | | | |
|--------|----------------|-------------------|----|----|----|----|----|----|---------------|------------------------------|--------------------------------|------------------------------|------------------------------|----------------|-------|------|
| | | | | | | | | | | A_{eff} [cm ²] | $A_{v,eff}$ [cm ²] | W_{eff} [cm ³] | I_{eff} [cm ⁴] | i_{eff} [cm] | | |
| 7 | 233 | 42 | 21 | 43 | 21 | 43 | 21 | 42 | 2 | 1700 | 1382 | 6672 | 49630 | 5.40 | | |
| | | | | | | | | | 4 | | 2047 | 7304 | 73502 | 6.58 | | |
| | | | | | | | | | 6 | | 2252 | 7439 | 80872 | 6.90 | | |
| | | 248 | 42 | 26 | 43 | 26 | 43 | 26 | 42 | | 2 | 1700 | 1344 | 7111 | 52036 | 5.53 |
| | | | | | | | | | | | 4 | | 2114 | 7901 | 81878 | 6.94 |
| | | | | | | | | | | | 6 | | 2372 | 8073 | 91880 | 7.35 |
| | 284 | 42 | 38 | 43 | 38 | 43 | 38 | 42 | 2 | 1700 | 1276 | | 8160 | 58025 | 5.84 | |
| | | | | | | | | | 4 | | 2258 | | 9336 | 102700 | 7.77 | |
| | | | | | | | | | 6 | | 2645 | | 9605 | 120325 | 8.41 | |
| | 299 | 42 | 43 | 43 | 43 | 43 | 43 | 42 | 2 | | 1700 | 1254 | 8596 | 60582 | 5.97 | |
| | | | | | | | | | 4 | | | 2311 | 9935 | 111630 | 8.10 | |
| | | | | | | | | | 6 | | | 2752 | 10245 | 132953 | 8.84 | |
| | 341 | 63 | 43 | 43 | 43 | 43 | 43 | 63 | 2 | 2120 | | 1163 | 11168 | 82199 | 6.23 | |
| | | | | | | | | | 4 | | | 2374 | 14087 | 167858 | 8.90 | |
| | | | | | | | | | 6 | | | 2976 | 14849 | 210399 | 9.96 | |

cross section values for elastically connected longitudinal layers after the Gamma-method

$$A_{v,eff} = 1,5 \frac{D_{eff}}{l_{eff} \cdot b} \quad (b= 100 \text{ cm})$$

- 
 ... longitudinal layer
 ... cross layer
- A_{eff} cross section area (only longitudinal layers)
 $A_{v,eff}$... surface for shear proof
 I_{eff} torque of inertia
 W_{eff} ... section modulus
 l_{eff} length

material

| kind of loading | EN 1995-1-1 EN 338 | |
|-------------------------------|----------------------|--------|
| | [N/mm ²] | |
| E-modulus bending | $E_{0,mean}$ | 11,000 |
| bending right angled to plane | $f_{m,k}$ | 18 |
| modulus of shear | G_{mean} | 690 |
| modulus of rolling shear | $G_{R,mean}$ | 50 |
| thrust from lateral force | $f_{R,k}$ | 0.70 |
| pressure in plane | $f_{c,0,k}$ | 21 |
| normal pressure to plane | $f_{c,90,k}$ | 2.5 |
| tension on plane | $f_{t,0,k}$ | 9.80 |

material values for dimensioning according to DIN on request