

# STATIC LOAD-BEARING CAPACITY

of these design standards, respectively in the standard EN 12369-1, which gives the minimum characteristic values for OSB

## CHARACTERISTIC VALUES OF STIFFNESS AND RIGIDITY FOR KRONOBUILD® LOAD-BEARING BOARDS

The tables below show the recommended informative values of characteristic strength and elasticity module in MPa for Kronobuild® load-bearing boards. For the designing the timber structures the design standard EN 1995-1-1 or DIN 1052:2004 may be used. The following values can also be found in the attachment

It is valid:  
1 MPa = 1N/mm<sup>2</sup>  
1 N ≈ 0.1 kg  
1kN ≈ 100 kg

### OSB BOARDS

OSB SUPERFINISH, TYPE OSB/3		NOMINAL BOARD THICKNESS [MM]							
		Direction of load	Direction of the major axis <sup>1)</sup>			Direction of load	Direction of the minor axis		
			8 - 10	>10<18	18 - 30		8 - 10	>10<18	18 - 30
Bending perpendicular to the board plane	$f_{m,k}$ $E_{m,mean}$		18 4930	16,4 4930	14,8 4930		9 1980	8,2 1980	7,4 1980
Bending in the board plane	$f_{m,k}$ $E_{m,mean}$		9,9 3800	9,4 3800	9,0 3800		7,2 3000	7,0 3000	6,8 3000
Tension in the board plane	$f_{t,k}$ $E_{t,mean}$		9,9 3800	9,4 3800	9 3800		7,2 3000	7 3000	6,8 3000
Compression in the board plane	$f_{c,k}$ $E_{c,mean}$		15,9 3800	15,4 3800	14,8 3800		12,9 3800	12,7 3000	12,4 3000
Shearing in the board plane	$f_{v,k}$ $G_{mean}$		1 50	1 50	1 50		1 50	1 50	1 50
Shearing perpendicular to the board plane	$f_{v,k}$ $G_{mean}$		6,8 1080	6,8 1080	6,8 1080		6,8 1080	6,8 1080	6,8 1080

OSB 4 SUPERFINISH TYPE OSB / 4		NOMINAL BOARD THICKNESS [MM]							
		Direction of load	Direction of the major axis <sup>1)</sup>			Direction of load	Direction of the minor axis		
			8 - 10	>10<18	18 - 30		8 - 10	>10<18	18 - 30
Bending perpendicular to the board plane	$f_{m,k}$ $E_{m,mean}$		24,5 6780	23,0 6780	21,0 6780		13,0 2680	12,2 2680	11,4 2680
Bending in the board plane	$f_{m,k}$ $E_{m,mean}$		11,9 4300	11,4 4300	10,9 4300		8,5 3200	8,2 3200	8,0 3200
Tension in the board plane	$f_{t,k}$ $E_{t,mean}$		11,9 4300	11,4 4300	10,9 4300		8,5 3200	8,2 3200	8,0 3200
Compression in the board plane	$f_{c,k}$ $E_{c,mean}$		18,1 4300	17,6 4300	17,0 4300		14,3 3200	14,0 3200	13,7 3200
Shearing in the board plane	$f_{v,k}$ $G_{mean}$		1,1 60	1,1 60	1,1 60		1,1 60	1,1 60	1,1 60
Shearing perpendicular to the board plane	$f_{v,k}$ $G_{mean}$		6,9 1090	6,9 1090	6,9 1090		6,9 1090	6,9 1090	6,9 1090

1) The major axis is identical with the direction of the surface layers and the direction of the panel stamp.

2) In ENV 1995-1-1 this value is used for the specification of  $f_{v,90,d}$

3) In ENV 1995-1-1 this value is used for the specification of  $f_{v,0,d}$

$E_{mean}$  is the mean value of the modulus of elasticity. For the specification of the lower 5% value E05 the following is valid:  $E05 = 0.9 E_{mean}$ , similar  $G05 = 0.9 G_{mean}$