

**EN 1058/EN789 Characteristic Strength, Stiffness and Density Values for Structural Design**

**EN 12871 Characteristic Strength and Stiffness values for Roof & Floor panels**

### BRATSK SOFTWOOD PLYWOOD



1073-CPR-T808 EN 13986, EN 636-2 S, E1, D-s2, d0

1073-CPR-T808 EN 13986, Flooring, EN 636-2 S, E1, D<sub>fl</sub>-s1

1073-CPR-T808 EN 13986, Roofing, EN 636-2 S, E1, D-s2, d0

**EN 635-3 veneer grade I, II and III in combination, sanded or unsanded**

EN 1058/EN 789 Characteristic density (kg/m <sup>3</sup> ) and strength (N/mm <sup>2</sup> ) values. <span style="float: right;"><i>Note 3</i></span>										
Thick-ness (nomi-nal), mm	Number of ve-neers/la-yers	Density, kg/m <sup>3</sup> <i>Note 1</i>	Bending		Tension		Compression		Shear	
			f <sub>m</sub>		f <sub>t</sub>		f <sub>c</sub> (=f <sub>t</sub> )		Panel shear	Planar shear
t <sub>nom</sub>		ρ	0	90	0	90	0	90	f <sub>v</sub>	f <sub>r</sub>
9	5/5	400	20	10	15	10	15	10	3,2	0,9
12	5/5	400	26	15	15	13	15	13	3,2	0,9
15	7/7	400	25	15	14	10	14	10	3,2	0,9
18/19	9/9	400	25	12	13	11	13	11	3,2	0,9
21	9/9	400	20	15	8	7,5	8	7,5	3,2	0,9
21	11/11	400	17	12	13	11	13	11	3,2	0,9
24	11/11	400	25	15	10	7,5	10	7,5	3,2	0,9
27	11/11	400	15	15	6	7,5	6	7,5	3,2	0,9
30	13/13	400	15	10	6	5	6	5	3,2	0,9

EN 1058/EN 789 Mean stiffness values (N/mm <sup>2</sup> ). <span style="float: right;"><i>Note 2 u 3</i></span>							
Thickness (nominal), mm	Bending		Tension		Compression		Panel shear modulus
t <sub>nom</sub>	E <sub>m</sub>		E <sub>t</sub>		E <sub>c</sub> (=E <sub>t</sub> )		G <sub>p</sub>
	0	90	0	90	0	90	
9	9750	1800	6000	3850	6000	3850	500
12	8500	3100	7200	4650	7200	4650	500
15	4800	2500	5800	4400	5800	4400	500
18/19	8200	3700	5700	4500	5700	4500	500
21 (9/9)	4600	2700	2000	2000	2000	2000	500
21 (11/11)	4500	2600	5500	4600	5500	4600	500
24 (11/11)	5000	3000	2500	2400	2500	2400	500
27 (11/11)	3000	3000	1500	2400	1500	2400	500
30 (13/13)	3000	3000	1500	2400	1500	2400	500

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Thick-ness (nom-inal), mm	Num-ber of ve-neers/ layers	Mini-mum distance between supports (span), mm <i>Note 6</i>	Point bending load			Re-sistance	Calculation		
			Characteristic Strength		Mean stiffness		Factor / Partial coefficient		Category <i>Note 5</i>
			Nor-mal $F_{ser,k}$ H	Max-imum $F_{ult,k}$ H	$R_m$ , H/MM <i>Note 7</i>		Class	Mini-mum $k_{mod}/\gamma_m$ <i>Note 4</i>	
<b>Floor</b>									
15	7/7	405	2871	4008	536	In accord-ance with require-ments	1	0,32	A
18	9/9	610	2861	3904	411		1	0,33	A
21	9/9-11/11	610	Values for 18mm are used						
<b>Roof</b>									
12	5/5	610	3102	3209	159	In accord-ance with require-ments	2	0,42	H
15	7/7	815	2462	3367	206		2	0,40	H
18	9/9	1220	3441	4160	112		2	0,32	H
21	9/9-11/11	1220	Values for 18mm are used						

**Note 1.** The mean values for density should be taken as 1.15 times the characteristic values given in the table.

**Note 2.** The 5% characteristic values for stiffness should be taken as 0.85 times the mean values given in the table.

**Note 3.** When used structurally under service class 1(dry) or 2(humid) conditions, the characteristic strength and stiffness values of the mechanical properties given in the tables shall be modified with regard to duration of load ( $k_{mod}$ ,  $k_{def}$ ) according to national codes. The panels may only be used in exterior conditions (Service Class 3) if a treatment of proven exterior durability (coating or otherwise) has been applied to the relevant surfaces and edges.

**Note 4.** The loading duration  $k_{mod}$  and the partial coefficient for materials,  $\gamma_m$ , may differ in different EU countries. The Minimum values indicated in the table relate to the indicated load category in combination with a  $k_{dis}$  value by EN 12871.

**Note 5.** Category A. Application. Living flats and houses, attics, hostels, rooms and wards in hospitals, bedrooms in hotels and asylums, kitchens and WC. Category H. Roof panels, that probably will not be used for living conditions due to the design and availability.

**Note 6.** See a separate instruction.

**Note 7.** The values in the table must be multiplied by 0,93 in order to get 5% characteristic stiffness values.