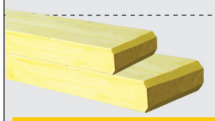
allwado®

EDGE GLUED PANEL - DOOR STILE - ROUGH / PLANED TIMBER - PELLET

The most durable
form of the beam

A20

COMPARATIVE TEST VALUES OF ALWADO A20 WOODEN BEAM AND OTHER SIMILAR PRODUCTS

Type of Product	Sizes Thickness Wideness Length	Weight	Safety Shear Force (V)	Safety Bending Moment (M)	Safety Rigidity (ExI_x)	Moment Of İnertia (I_x)
 A 20 Laminated Beam	80x200x2900mm	6,90 kg/m	32,00 kN	12,90 kNm	669,8 kNm²	5333 cm⁴
 Equivalent Product	80x240x2900mm	5,90 kg/m	28,00 kN	7,00 kNm	887 kNm²	8064 cm⁴
 Equivalent Product	80x200x2900mm	5,90 kg/m	11,00 kN	5,00 kNm	460 kNm	4181 cm⁴

The tables are prepared according to the results of the report dated 15.01.2018, numbered 2018-03-01, prepared by the Department of Civil Engineering of Akdeniz University and the laboratory of the Department of Building Science.

WE SUCCESSFULLY COMPLETED TEST RESULTS!

Chart 2. Experiment Results

Type Of Laminated Beams	Test No	P Load (kg)	P Aver. (kg)	Average Strength (kg/cm^2)	Average Resistance Safe (kg/cm^2)	Displacement (mm)	Moment (kN.m)	Curvature (rad./m)
Pine Solid	1	3038	3792	267	178	25.1	11.17	0.0252
	2	4675				49.3		
	3	3663				31.1		
Pine Joint	1	2988	3175	223	149	26.7	12.73	0.0433
	2	3463				32.4		
	3	3075				28.2		
Spruce Solid	1	5250	4896	344	230	57.6	19.31	0.0388
	2	4750				44.8		
	3	4688				39.0		
Spruce Joint	1	3525	4038	284	189	28.4	14.25	0.0307
	2	3875				31.7		
	3	4713				41.7		
Spruce Solid-Joint Mixed	1	4988	4404	310	206	40.8	18.34	0.0362
	2	4888				50.1		
	3	3338				33.7		

In this test, 8x20x290 cm size pine solid, pine-jointed, spruce solid, spruce-jointed and spruce solid-jointed mix laminated beams were used. Laminated beams have been subjected to bending strength tests under two point loads at the loading area. As a result of the tests, breaking loads, average breaking load, maximum displacements under breaking load, momentum under the breaking load, curvature occurring under breaking load, these are detailed in Table 2.

P load : The maximum load measured during the test, P ava: The average test load 1-2-3, Average resistance safe: bending strength calculated from average load(It was divided by 1.5), displacements: vertical displacement under breaking load, Moment: momentum under the breaking load, curvature: curvature occurring under breaking load.The average bending strength values for the 5 different elements of pine solid, pine joint, spruce solid, spruce joint and spruce mixed in the sizes of 8x20x290 cm according to the table 2 are 3792 kg, 3175 kg, 4896 kg, 4038 kg and 4404 kg respectively. As a result of the wooden beam bending tests, the resistance of the spruce solid laminated beam elements against the applied force is in the first place with 4896 kg. After the spruce solid laminated beam, spruce mixed laminated beam was placed second with 4404 kg displacement load. The spruce joint laminated beam has the 3rd best performance between 4038 kg displacement load and 5 elements. The pine solid laminated beam has a lower displacement force than spruces with a displacement load of 3792 kg. As a result of the bending tests of five different elements, the pine joint laminated beam emerged as having the lowest displacement load with an average of 3175 kg. Looking at all the results, it is seen that spruce material has higher stamina in all cases than pine material.

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