



# STRUCTURAL GRADE PLYWOOD

TESTS METHOD	UNITS	Requirement as per Indian Specifications (IS 10701:2012)	VALUE OBTAINED
1) Dimensions & tolerance IS:12049-1987 (RA2001)			
Length	mm	+6 / -0	+1 /-0
Width	mm	+3 / -0	+1 /-0
Thickness	%	±5% : 6mm & above	+1.5
Square-ness	%	Max 0.20	0.08
Edge straightness	%	Max 0.20	0.07
2) Moisture content as per IS:1734-1983 (RA 2003) Part.1	%	5-15	10-12
3) Glue adhesion in dry state			
Glue shear strength as per IS:1734-1983 (RA 2003) Part4	N	Avg.1,350	Avg.1,650
Adhesion of plies as per IS:1734-1983 (RA 2003) Part 5		Min.1,100	Min.1,485
		Min. Pass	Excellent
4) Resistance to water			
Glue shear strength as per IS:1734-1983 (RA 2003) Part4 & 6	N	Avg. 1,000	Avg.1,370
Adhesion of plies as per IS:1734-1983 (RA 2003) Part 5 & 6		Min.800	Min.1,285
		Min. Pass	Excellent
5) Mycological test			
Glue shear strength as per IS:1734-1983 (RA 2003) Part4& 7	N	Avg. 1,000	Avg.1,340
Adhesion of plies as per IS:1734-1983 (RA 2003) Part 5 & 7		Min.800	Min.1,390
		Min. Pass	Excellent
6) Static bending strength as per IS:1734-1983 (RA 2003) Part 11			
A) Modulus of rupture	N/mm <sup>2</sup>		
a) Along the grain			
i) Average		Min. 50	69.7
ii) Min. Ind.		Min. 45	61.8
b) Across the grain	N/mm <sup>2</sup>		
i) Average		Min. 30	56.1
ii) Min. Ind.		Min. 27	53.7
B) Modulus of elasticity			
a) Along the grain	N/mm <sup>2</sup>		
i) Average		Min. 7500	9450
ii) Min. Ind.		Min. 6700	8240
b) Across the grain	N/mm <sup>2</sup>		
i) Average		Min. 4000	6500
ii) Min. Ind.		Min. 3600	5760
7) Wet bending strength as per IS:1734-1983 (RA 2003) Part 11			
A) Modulus of rupture			
a) Along the grain	N/mm <sup>2</sup>		
i) Average		Min. 25	39.6
ii) Min. Ind.		Min. 22	34.0
b) Across the grain	N/mm <sup>2</sup>		
i) Average		Min. 15	37.9
ii) Min. Ind.		Min. 13	35.6
B) Modulus of elasticity			
a) Along the grain	N/mm <sup>2</sup>		
i) Average		Min. 3750	5,730
ii) Min. Ind.		Min. 3400	4,966
b) Across the grain	N/mm <sup>2</sup>		
i) Average		Min. 2000	4,512
ii) Min. Ind.		Min. 1800	3,970
8) Tensile Strength as per IS:1734-1983 (RA 2003) Part 9	N/mm <sup>2</sup>		
a) Along the grain		55	77
b) Across the grain		35	45
9) Compressive strength as per IS:1734-1983 (RA 2003) Part 10	N/mm <sup>2</sup>		
a) Along the grain		35	47.5
b) Across the grain		30	39.8
10) Panel shear strength as per IS:1734-1983 (RA 2003) Part 13	N/mm <sup>2</sup>	12.5	14.66
11) Modulus of rigidity	N/mm <sup>2</sup>	588	607
12) Rolling shear strength as per IS:1734-1983 (RA 2003) Part 14	N/mm <sup>2</sup>	3	3.87
13) Retention of preservatives as per IS 2753 (Part 1) and IS 2753 (Part2)	Kg/m <sup>3</sup>	12	15.7

