UMANG BOARDS LIMITED

PRODUCT DATA SHEET

HIGH DENSITY TRANSFORMER BOARD

High Density Transformer Board

AS PER 60641-3-1 © IEC: 2008, TYPE B.3.1 A

Umang Boards offer Pre-compressed Press board High Density (Transformer board) in sheets with thickness (0.8 – 4.0) mm. The master sheet size offered (4000 X 2100) mm, which is cut into standard sheet size (4000 X2100) mm, (3200 X 2100) mm, (2000 X 1050) mm. Other sheet sizes are available on request with a minimum quantity of 5.0 MT.

CHARACTERISTIC FEATURES

1. Made of 100 % sulphate wood pulp (Characterized by high chemical purity)
2. Natural color
3. High purity and mechanical strength.
4. Low shrinkage and Compressibility.
5. Good compatibility with liquid dielectrics strength

RAW MATERIALS

Pre-compressed Press board High Density is produced with finest quality choice of sulphate wood pulp. It is sourced from carefully selected and well maintained pulp mills in the world.

The Pulp mills have a strong command on the quality of the pulp production due to their state of the art PLC controlled machinery which helps them manufacture top quality sulphate wood pulp as per Specification requirement.

Our team at Umang Boards carefully instructs and inspects the raw material vendors to ensure that the incoming pulp is free from metal and any contamination.

APPLICATION

"UMANG" UB-HD-3.1 Grade Transformer Boards/ Pre Compressed Press Boards is recommended to be use in all types of Power and Distribution Transformers.

SHEET SIZE

Grade UB-HD-3.1 is available in below Sizes in (MM): -

Type	Thickness (In mm)	Sheet Size	
		Length (mm)	Width (mm)
High Density - UB-HD-3.1	1.0 mm to 4.0 mm	4000	2100
		3200	2100
		2200	1100
		2000	1050
	5.0 mm TO 40.0 mm *	2000	1000
		3200	2100

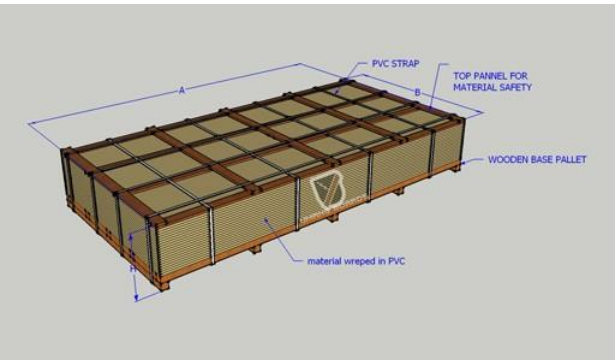
*** Laminated Boards as per IEC 60673 made with polyester glue in between and hot pressed.**

PACKING

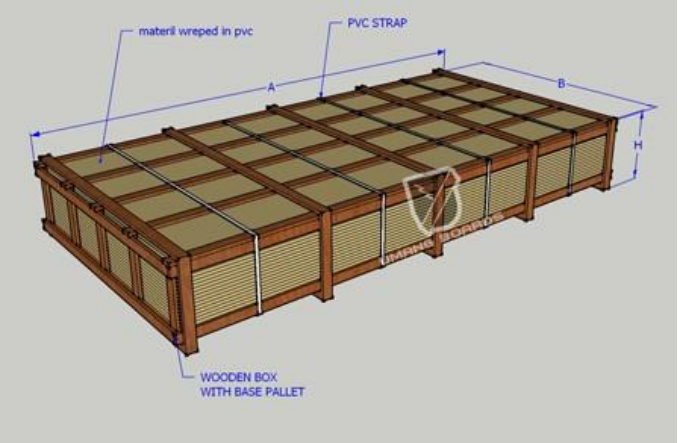
Transformer boards are made up of unbleached suplate pulp which is a natural product obtained from wood. Due to this natural characteristic, it is bound to adapt to the climatic conditions and absorb moisture. Due to this case special care is taken by Umang Boards packing and dispatch teams while packaging ,dispatching and storage the product.

Sheets of Insulation boards are wrapped in special grade plastic using automated machine, so to make the bundle packing sea worthy & serving as a barrier against atmospheric influence, dust and humidity. These bundles are further suitably packed in pallets /wood boxes to avoid physical deformation during transit

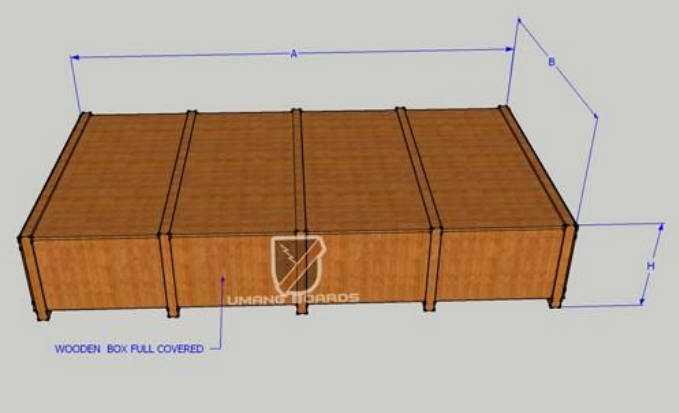
1. STANDARD PALLET PACKING



2. WOOD BOX PALLET PACKING (On request)



3. WOOD BOXPACKING (On request)



REFERENCE TABLE

Transformer Boards Sheets Sizes in mm		Wooden Pallet Gross Sizes (mm)		
		A (Length)	B(width)	H(Height)
4200	2100	4250	2150	400 - 700
3200	2100	3250	2150	400 - 700
2000	1050	2150	1100	400 - 700

STORAGE

Transformer boards should be stored in dry rooms and protected from draughts, both in original packing, and particularly when unpacked. It should be ensured that transformer boards are not stored near heaters or windows to avoid fluctuating temperature. It should also be made sure that transformer boards are put on pallets or racks and not on floors.

During Longer storage, we recommend that transformer boards are packing with strong plastic wrapping which ensures that transformer boards are protected from absorbing moisture and dust and prevent sheets from distortion. This also adds to good machining ability even after longer storage.

TECHNICAL DATA SHEET

S. No.	Properties	Thickness	Units	Min. / Max.	Type
1	Thickness Deviation from nominal	≤1.6 mm >1.6 mm	%	Max	± 7.5 % ± 5.0 %
2	Apparent Density	≤1.6 mm >1.6 – 3.0mm > 3.0mm	g/cm^3	Range	1.00 -1.20 1.10 -1.25 1.15 - 1.30
3	Tensile Strength, Machine direction	≤1.6 mm >1.6 – 3.0mm > 3.0mm	MPa	Min.	100 105 110
4	Tensile Strength, Cross Machine direction	≤1.6 mm >1.6 – 3.0mm > 3.0mm	MPa	Min.	75 80 85
5	Elongation - machine direction cross machine		%	Min.	2.5 3.5
6	Compressibility C	≤1.6 mm >1.6 – 3.0 mm >3.0 – 6.0 mm >6.0 mm	%	Max.	*10.0* *7.5* *5.0* *4.5*
7	Reversible part of Compressibility C_{rev}	≤1.6 mm >1.6 – 3.0 mm >3.0 – 6.0 mm >6.0 mm	%	Min.	*45* *50* *50* *50*
8	Shrinkage - Machine direction Cross machine direction Thickness		%	Max.	*0.5* *0.7* *6.0*
9	Plybond resistance		N/30 mm	*Min.*	*250*
10	Moisture Content		%	Max.	*6.00*
11	Ash Content		%	Max.	*0.7*
12	Conductivity of Aqueous Extract	≤1.6 mm >1.6 – 3.0 mm >3.0 – 6.0 mm >6.0 mm	(mS/m)	Max	*5.0* *6.0* *8.0* *10.0*
13	PH of Aq. Extract		--	*Range*	*6.0 – 9.0*
14	Oil Absorption	≤1.6 mm >1.6 – 3.0 mm >3.0 – 6.0 mm >6.0 mm	%	Min.	*11.0* *9.0* *7.0* 6.0
15	Electric Strength in Air		kV/mm	*Min.*	*12*
16	Electric Strength in oil	≤1.6 mm >1.6 mm	kV/mm	*Min.*	*45* *35*

Note : These values do not constitute specification of our products and also provided are values in accordance with the IEC specification. Since test conditions cannot always duplicate actual field installations or end use, Umang Boards make no warranties with respect to such data and assume no responsibility for performance characteristics resulting from conditions which may differ from those used in laboratory tests.

REFERENCE TABLE

Reference Grade & Standard	Tests conducted as per 60641-2 © IEC: 2004 Methods of Test
Color	Natural Brown
Appearance	Matte with mesh mark on both sides