



# BISON PANEL



## *Applications*



### NCL INDUSTRIES LIMITED

An ISO 9001-2008 Company

Raghava Ratna Towers, 7th Floor, Abids, Hyderabad - 500 001, India

[bisonpanel@nclind.com](mailto:bisonpanel@nclind.com)

Website: [www.nclind.com](http://www.nclind.com)

# INTERNAL APPLICATIONS



PARTITIONS / CABINS



FALSE CEILING



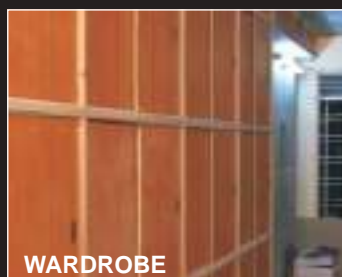
CUBICLES



PANELS



KITCHEN CABINETS



WARDROBE



KITCHEN CABINETS



FALSE CEILING

# INTRODUCTION



**BISON PANEL PLANT, POANTA SAHIB**






**BISON PANEL PLANT, MATTAPALLI**

This manual contains general information and guidelines for understanding Bison Panel to get best results in its application.

### Bison Panel conforms to IS 14276-1995

Bison Panel is a cement bonded particle board made out of 62% cement 28% wood. The wood used is of fast growing species like Eucalyptus and Poplar. Due to adoption of special manufacturing process, the panel acquires the strength, the durability of cement and easy workability of wood - a combination of qualities absent in other boards.

This multipurpose building board - a proven product in countries around the world is introduced in India by NCL with imported technology from Bison Werke of Germany.

		
CEMENT	WOOD	WATER & CHEMICALS
62%	28%	10%

## Physical Properties

Density	1250 Kgs/m <sup>3</sup> (1100 Kgs minimum as per BIS)
Moisture content	9% ± 3% at Factory Point.
Bending strength	9N/mm <sup>2</sup>
Compressive strength (perpendicular to surface)	15 N/mm <sup>2</sup>
Nail holding power perpendicular to surface.	205 Kgs

## BISON PANEL FOR KITCHENS

Today's modern kitchens have become the pride of the home makers. To possess latest gadgets and fittings available for kitchens is the dream of every housewife.

Hitherto for the core infrastructure or the shell for kitchen arrangements has been wood or plywood - over which elegant overlays and claddings are fixed to present a posh look.

But unfortunately the kitchen cabinets are often short lived due to menace of the termites and rats. Of late it is realized by users, that Bison Panel - the Cement Bonded Particle Board is THE BEST and everlasting as the core for kitchen platforms and cabinets.

Number of Companies dealing with ready made kitchen cabinets have already switched over to Bison Panels.



### UNDERLAYS OF KITCHEN PLATFORMS

| TERMITE PROOF | FIRE RESISTANT | MOISTURE RESISTANT | STRONG & DURABLE

## BISON PANEL FOR FALSE CEILINGS

The recommended false ceiling system for Bison Panel is the usual suspended grid system which has gained popularity in Building industry.

The thickness of the Bison Panel for false ceiling can be 6 mm or 8 mm depending on the requirement of thermal comfort. For better thermal comfort a 32 mm thick Thermocol may be cut to size and pasted on the top of Bison Panel stuck with diluted PVA based resin. The false ceiling can be either 'T' grid type or flush jointed type. In either case the longitudinal supports shall be spaced at 610 mm intervals and cross supports at 610 mm or 1220 mm centres.

### Grid System

- Grid can be made either with steel or aluminium Tee sections or with timber with suitable wall line supports. The suspension arrangement can be with G.I. wires of adequate gauge taken to required level from the soffit.
- Bison Panels 6 mm and 8 mm thick are recommended for false ceilings.
- The grid shall be 610 x 610 mm or 610 x 1220 mm (2'0 x 2'0 or 2'0 x 4'0.)
- In areas where change of humidity and temperature are applicable and frequent it is recommended to adopt 610 mm x 610 mm grid only.
- The T-Sections (30 x 35 mm) for the grid frame rolled from 0.5 or 0.7 mm GI Sheet with prepainted Steel caps are available in the market. They come in a kit form comprising of longitudinal runners, cross bits and junction components.
- In case, Aluminium T-sections are used for the grid, the minimum thickness of the section shall be 1.2 mm and size 30 x 35 mm.
- Suspenders can be either 8 swg G.I. wire or 0.7 x 12 mm G.I. flats. They are available in the market as coils.
- The maximum distance allowed between suspenders in longitudinal direction and cross direction is 1220 mm or 4'0. Closer intervals may be adopted depending on the soffit conditions.
- When false ceiling is under RCC slab, suspenders can be tied to suitable clamps fixed in the slab by drilling, screw fixing with self expanding caps. The screws and self expanding caps are available in the market in required size.



FALSE CEILING AND FLUSH JOINT



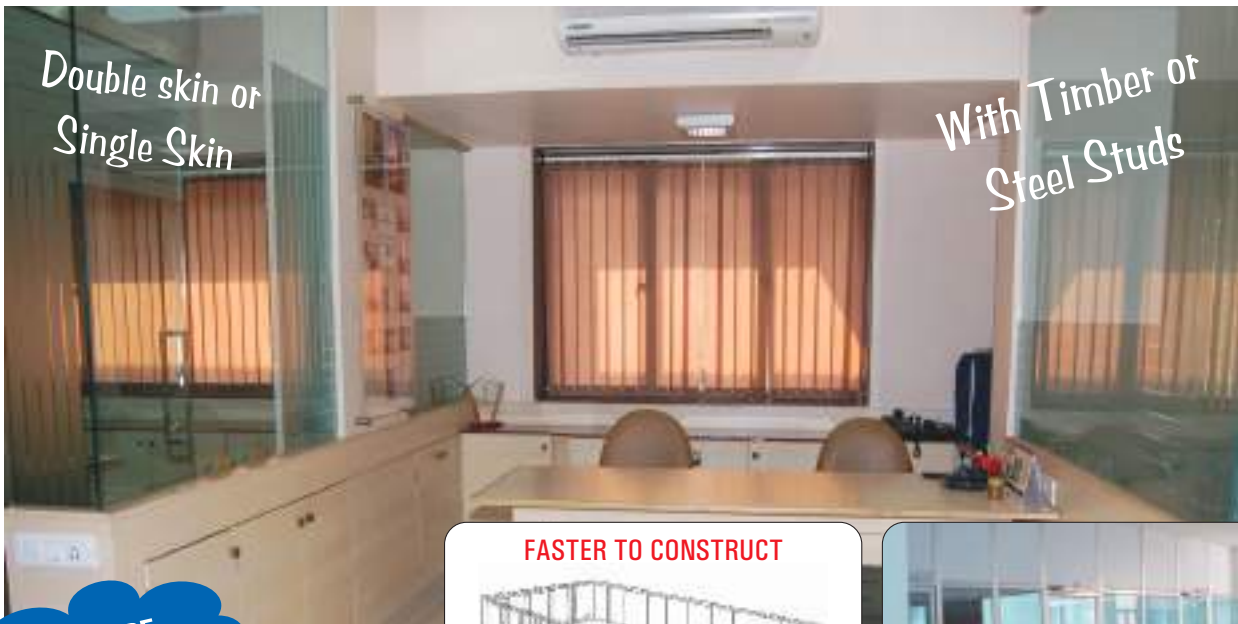
FALSE CEILINGS - GRID TYPE

- It is necessary to introduce a turn buckle in the suspender for easy and faster levelling of the grid. Ordinary G.I. J-bolt can serve as turn buckle.
- It is important to fix wall angle perfectly to level as the level of the entire grid depends on the level of wall angle.
- Wherever the lighting openings occur, extra suspenders will have to be provided to take the load of the outfits. The panels will have to be painted in dry condition on both sides and the edges in particular before inserting them in the grid.
- A clearance of 2 mm shall be given between the board and the grid on all sides for taking care of thermal expansion if any and / or easy insertion.

# BISON PANEL FOR PARTITIONS AND WORK STATIONS

The excellent qualities of fire resistance and acoustic insulation apart from natural resistance to weather, fungus, termite and vermin attack, makes Bison Panel an ideal choice for partitions, in residential, commercial, industrial complexes and public buildings.

Bison Panel is an ideal material for many types of dry wall partitions including double skin, single skin, with steel and timber studs. These partitions are light in weight and economical.



**NO FIRE ACCIDENTS,  
YOUR OFFICE IS  
SAFE FOR EVER.**

**FASTER TO CONSTRUCT**



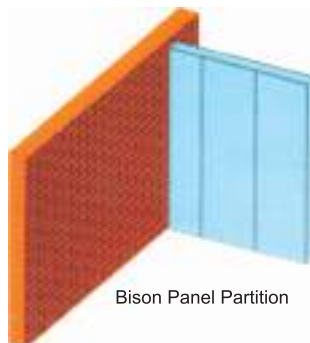
Stud and Track Partition

**SAFE AND ECONOMICAL**

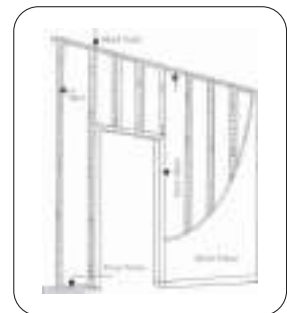


**ASBESTOS, SILICA FREE & ECO FRIENDLY**

**COST EFFECTIVE, HIGH FIRE RATING  
ACCOUSTIC INSULATION, TERMITE PROOF  
DURABLE & ELEGANT**



Bison Panel Partition



**FRAME WORK**

# BISON PANEL FOR FURNITURE AND WARDROBE

Bison Panel is highly resistant to Termite, Vermin and Rat bites. Apart from this, it is fire and moisture resistant. Since, it is heavier and stronger than wood, it is recommended for applications like fixed furniture and work-stations. It will serve excellently as planks required for built-in wardrobe in masonry walls and storage racks.

These applications can be suitably decorated with paint or lamination to match with the latest trends in interior designs.



**BOOK RACK**



**MULTIPLE RACKS**



**DOORS**



**BENCHES & DESKS**



**SMALL CUPBOARDS**



**CUPBOARDS/RACKS**



**DRESSING ROOM**



**CUPBOARD**

# BISON PANEL FOR FLOORING

## CAVITY FLOORS MEZZANINE FLOORS

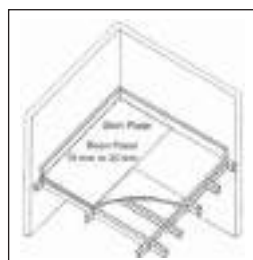
Bison Panel with supports at 600 mm intervals can take 700 Kgs./Sqm. of live load by choosing right thickness of the panel.



**FLOORING**



**MEZZANINE FLOORING**



LOADING TABLE					
Thickness in mm <b>1</b>	Span in mm L <b>2</b>	2 to 3 Supports		Multiple Supports	
		Max. Load Kgs/m <sup>2</sup> <b>3</b>	L/300 <b>4</b>	Max. Load Kgs/m <sup>2</sup> <b>5</b>	L/300 <b>6</b>
10	300	267	148	333	185
	400	150	63	188	79
	500	96	32	120	40
	600	66	19	83	24
12	300	391	278	457	457
	400	220	117	257	257
	500	141	60	164	145
	600	96	35	114	84
16	300	697	659	812	812
	400	392	278	457	457
	500	251	143	293	293
	600	174	83	203	199
18	300	915	895	1067	1067
	400	514	421	600	600
	500	329	215	430	384
	600	228	125	266	264
20	300	1088	1088	1269	1269
	400	612	543	714	714
	500	392	278	547	457
	600	272	161	317	317
30	300	2411	2411	2812	2812
	400	1356	1356	1582	1582
	500	868	865	1012	1012
	600	603	539	703	703
40	300	2720	2720	3182	3182
	400	1625	1625	1909	1909
	500	972	960	1142	1142
	600	680	635	795	795

- Column 1 Shows the thickness of Bison Panel
- Column 2 Shows the span, i.e., the distance between supports.
- Column 3 Shows the uniformly distributed safe load and board can take per sq. meter when the individual board is supported by two or three supports.
- Column 4 Shows uniformly distributed load the board can take when the deflection of sag is restricted to one mm for every 300 mm of span length
- Column 5 Shows the uniformly distributed load the board can take per sq. meter when the individual board is supported by 4 or more supports when the deflection or sag is restricted to one mm for every 300 mm of span length.



# ALL PROOF FOR ALL TIME

BISON PANEL, a Cement Bonded Particle Board made in technical collaboration with M/s. BISON WERKE of GERMANY, combines the strength of cement and workability of wood. Its unique combination of properties gives it all round superiority over most other boards.

It's versatility in both internal and external applications is exemplified the world over.

**Sizes Available:**  
2440 x 1220 mm (8' x 4');  
3050 x 1220 mm (10' x 4')

**Thickness Available**  
6, 8, 10, 12, 16,  
18, 20, 25, 30, 40mm



**FALSE CEILING**



**PARTITIONS**



**FLOORING**



**CABIN**



**KITCHEN PLATFORMS**



**BOOK RACK**



**RACKS**



**CUPBOARDS**



**DOORS**



**PREFAB SHELTERS**



**DUCT COVER**

**FROM FLOOR TO ROOF & EVERYTHING IN BETWEEN**

## DOORS & WINDOWS

Bison Panel proves to be an ideal replacement for wood panels in doors and windows. Bison panels, with its moisture proof advantage, are very effective in areas of high moisture and humidity, such as kitchens, bathrooms and balcony doors.

These panels are well equipped to handle weather hindrances and possess high dimensional stability. In addition the panels are fire, termite and impact resistant. Bison Panel products are highly sound insulated and are much more durable and economical as compared to other products.



CARVED DOORS



DOORS & WINDOWS

## RECOMMENDED THICKNESS

S.No.	Application	Thickness in MM									
		6	8	10	12	16	18	20	25	30	40
1	Partitions			■	■						
2	Fire Rated Partitions				■	■					
3	Wall Claddings			■	■						
4	Facia Panels				■	■					
5	Floors					■	■	■			
6	False Ceilings	■	■								
7	Door Panel inserts		■	■	■						
8	Flush Doors						■	■			
9.	Roof Sarking			■	■	■					
10	Wardrobe Planks				■	■	■	■			
11	Sign Boards				■	■					
12	Kitchen Cabinets					■	■	■			
13	Furniture		■	■	■	■	■	■			
14	Table Tops				■	■					
15	Fixed Furniture			■	■	■	■				
16	Duct Covers			■	■						
17	Stair Cases						■	■	■		
18	Cabins & Booths			■	■	■					
19	Prefab Wall Panels			■							
20	Special Applications										



**WARDROBE**



**COLUMN CLADDING**

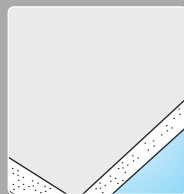


**TRANSIT CAMP**

## SPECIAL FEATURES



**CHEMICALLY STABLE**



**SMOOTH SURFACE**



**FUNGUS RESISTANT**



**SOUND INSULATION**



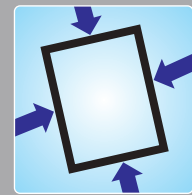
**FIRE RESISTANT**



**WEATHER RESISTANT**



**TERMITE PROOF**



**DIMENTIONALLY STABLE**

## PREFAB SHELTERS WITH BISON PANELS

## Prefab SHELTERS

One of the prime use of Bison Panel is its use in construction of Prefab Homes. NCL Prefab Shelters are constructed in track and panel system with advantages of simplicity in construction, easy transportation, even to difficult terrains, remarkable speed of erection requiring no high skills or machinery.

The panel walls of the shelters are made in double skin with Bison Panels and placing of expanded polystyrene in between.

Assembly of the wall panels and roof trusses etc., will be by anti-corrosive steel profiles and structural steel sections as required. The roof will be with G.I. or color coated steel sheets.

The main advantages of the NCL Prefab Shelters are many : they are terrain and climate compatible, durable, comfortable and cost effective. Due to simplicity in design and speed of erection, these shelters are ideal for providing instant accommodation, cutting the project cost.





# PREFAB SHELTERS





**BISON Lam**  
PRELAMINATED CEMENT PARTICLE BOARD

**BISON Lam** : Prelaminated Bison Panels are manufactured by NCL under the Brand name BISON Lam. Bison Lam contributes to exterior grade qualities like fire, water, termite and fungus resistance of the plain Bison Panel with a beautiful look and finishes of Laminated Board.

Bison Lam is available in thicknesses viz., 6 mm, 10 mm, 12 mm and 16 mm in shades like Natural Teak, Light Gray, Sea Beach and Ivory. The Lamination surface is impermeable to moisture and highly resistant to staining from Tea, Coffee, Washing Powder, Detergents etc. The surface can be cleaned with a wet cloth.



**KITCHEN PLATFORM UNDERLAYS**



**CONFERENCE ROOM**



**BISON**  
DESIGNER BOARD



**LUMBER**



**MURK**

## NCL GROUP OTHER PRODUCTS



NCL Industries Limited, the flagship Company of NCL Group has been serving construction industry of Andhra Pradesh for the past 28 years.

The Company which is operating from two units, One at Simhapuri (Nalgonda District) and the other at Kondapalli (Krishna District) in Andhra Pradesh having an installed capacity of Two million tons per annum.



### NCL Seccolor Profiles

NCL manufactures Seccolor roll formed steel profiles pre painted or powder coated for manufacture of Doors, Windows, Partitions, False ceilings etc. with world class elegance and Italian Technology.



The range of products include Ready mix plasters, interior and exterior textures, water proofing coats, acrylic paints, key coats, under coats, Primers, Tile fixes etc.



NCL Manufactures uPVC profiles in technical collaboration with M/s. Adopen of Turkey. Doors and windows made with these profiles are widely used world over for multi storied buildings. They are strong and maintenance free.



NCL Homes (Pvt) Ltd also a group company looks after construction of residential complexes and townships. It has completed number of projects in twin cities and is expanding its activity in Karnataka state and Tamilnadu.





## Cement Bonded Particle Board

### Regional Offices (Boards Division )

- **DELHI:**  
NCL INDUSTRIES LTD.,  
D-82 , 2ND Floor, Malvivya Nagar,  
NEW DELHI-110017,  
[Redacted]
- **MUMBAI:**  
NCL INDUSTRIES LTD.,  
Unit No : 6 , Building No : 5,  
Jogani Industrial Estate,  
V.N.Purav Marg, Chunnabhatti,  
[Redacted]
- **AHMEDABAD :**  
NCL INDUSTRIES LTD.,  
208 , Samaan Complex ,  
Opp : Satyam Mall,  
Near Kameshwar School,  
Jodhpur Cross Road, Satellite,  
Ahmedabad, Gujarat-380 015  
[Redacted]
- **CHENNAI:**  
NCL INDUSTRIES LTD.,  
Percision Plaza, 2nd Floor,  
281, Anna Salai, Teynampet,  
CHENNAI-600 018  
[Redacted]
- **COIMBATORE :**  
NCL INDUSTRIES LTD.,  
OLD No : 139, New No : 28,  
C.K.Colony, New Siddhapudur  
Coimbatore , Tamil Nadu - 641 044,  
[Redacted]
- **PANCHKULA:**  
NCL INDUSTRIES LTD.,  
Cabin No : 13, Second Floor,  
Sco-83, 2nd Floor, Swastik Vihar,  
MDC, Sector-5 ,  
PANCHKULA-134 119, Haryana,  
[Redacted]
- **PUNE:**  
NCL INDUSTRIES LTD.,  
12/3, B-311, Siddharth Towers,  
Opp : Sangam Press, Kothrud,  
Pune , Maharastra-400 029  
[Redacted]
- **VISAKHAPATNAM:**  
NCL INDUSTRIES LTD.,  
D.No 50-48-13 ,  
P & T Colony, Sitammadhara,  
Visakhapatnam-530 013,  
[Redacted]
- **COCHIN:**  
NCL INDUSTRIES LTD.,  
422-MIG , 9th Cross Road,  
Panampally Nagar,  
Eranakulam,  
Cochin-682 036, Kerala,  
[Redacted]
- **BANGALORE:**  
NCL INDUSTRIES LTD.,  
10th Floor, Unity Building,  
JC Road, Bangalore-052,  
[Redacted]



## NCL INDUSTRIES LIMITED

An ISO 9001-2008 Company

Raghava Ratna Towers, 7th Floor, Abids, Hyderabad - 500 001, India  
[Redacted]

Email: [bisonpanel@nclind.com](mailto:bisonpanel@nclind.com) [Redacted], Website: [www.bisonpanel.com](http://www.bisonpanel.com)

Helpline: 09317893128 [Redacted]