



ecology
is an ideology

BLACK COBRA[®]
HIGH DENSITY PVC/WPC BOARD, DOOR & DOOR FRAME

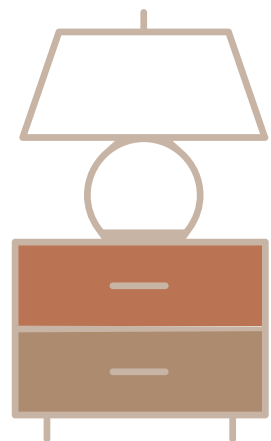
Innovation ———
is in our domain
now it is P | a W o o d

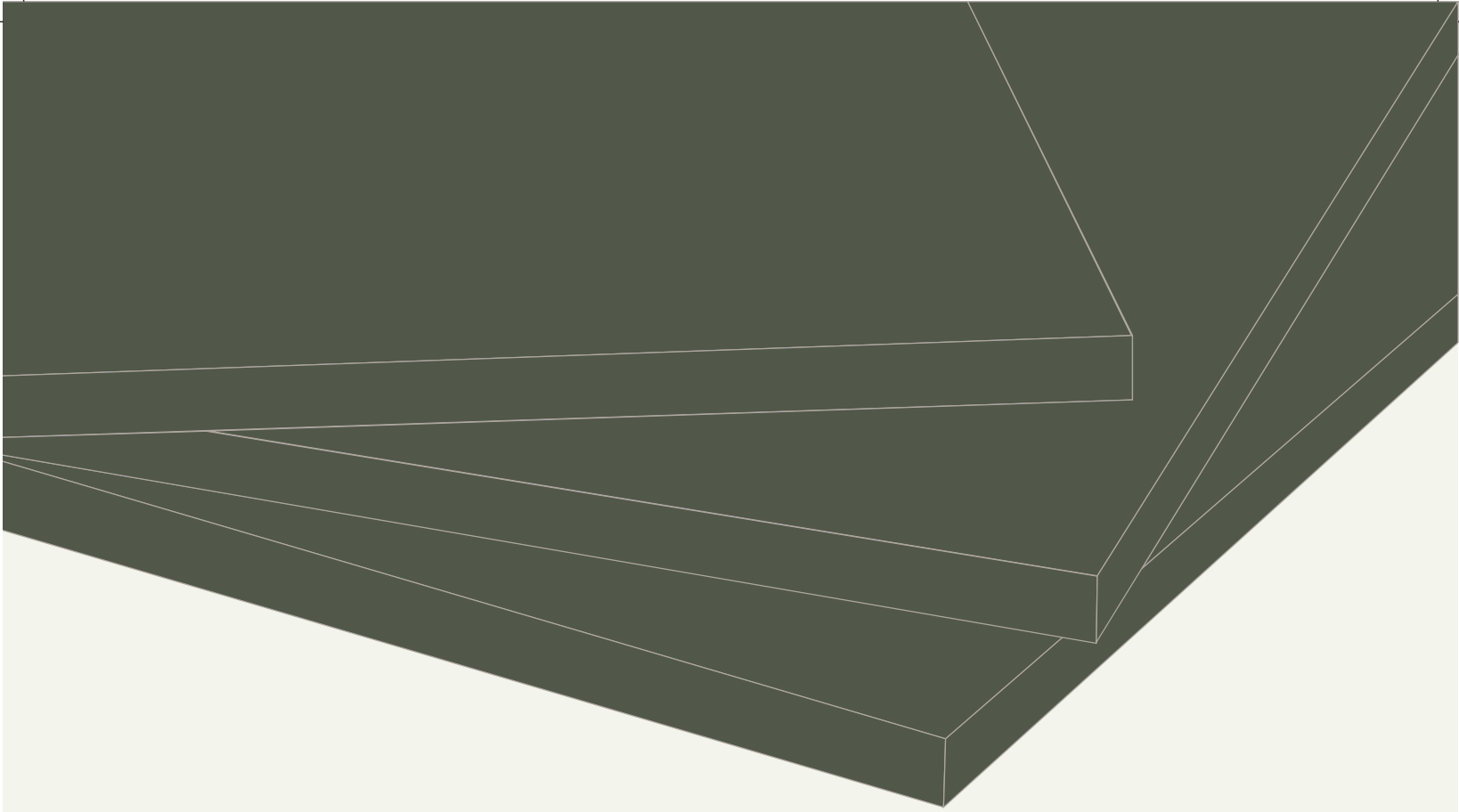
PlaWood is 100% eco-friendly as there is no cutting of trees and also there is no use of any hazardous chemical to make this product. Moreover PlaWood can be recycled and can be reused again unlike other materials like plywood, MDF and even wood. PlaWood ensures it protects the nature and saves your money.



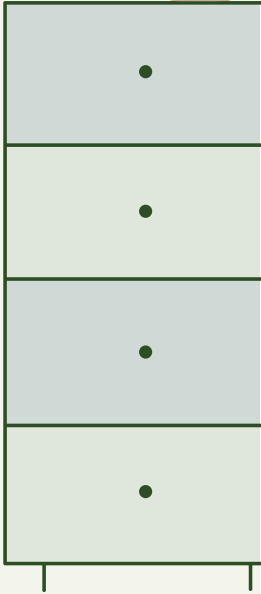
Table of Contents

| | |
|--|----|
| About Us | 02 |
| What is PlaWood | 03 |
| Benefits of PlaWood | 05 |
| Applications | 07 |
| Door Frame | 09 |
| High Density WPC Doors | 11 |
| Quality Control, Production Process, etc | 13 |
| Happy Clients | 14 |
| Certifications | 15 |
| FAQs | 19 |





We transform
desires & imaginations
INTO REALITY.



ABOUT US

It is very gratifying to profile Black Cobra Group before you. It is our way of acknowledging your creativity, taste, eye for quality and sustainability.

Black Cobra Group is a distinguished pillar of Indian building materials sector since 1990 that manufactures quality plywood under the brand name Black Cobra, which is among the leading plywood brands in the country. The Group has over 1mn+ square feet of manufacturing space spread across 6 manufacturing plants.

The group also manufactures Aluminium Composite Panels under the brand name of “Alex Panels”, which is among the pioneers of the ACP industry in India and among the leading ACP brands in the country. The products of the group are trusted by leading institutions in India such as ITC, DLF, Supertech, Delhi Metro Rail Corporation, Indian Oil, LIC, SBI, HDFC, LG, Patanjali, Volkswagen, PWD, Samsung, Airports Authority of India, MMRDA, IGL, Shapoorji Pallonji, & more.

Apart from manufacturing a diverse range of building materials (such as plywood, shuttering, flush doors, laminates, PVC boards, ACP, etc), the Group has etched its mark in the Education sector with a resplendent chain of institutions called Quantum University in Roorkee which is ranked among the top 60 B-schools in India by the Times Group.

Yamuna Interiors Private Limited, an ISO 9001&14001 and OHSAS 18001 certified company, is an arm of the Black Cobra Group, that manufactures eco-friendly construction materials such as PlaWood (PVC Boards), WPC Doors, PVC Laminates, WPC Door Frames and 3D Panels and Grills.

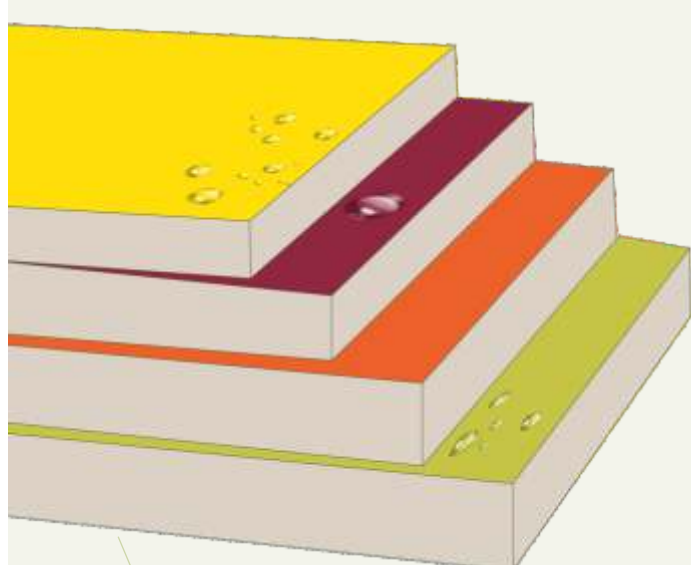
WHAT IS PLAWOOD?

"Black Cobra PlaWood" is a high density WPC Board which is the best among other panel products in terms of its features and is known for its durability and thermoplastic properties.

PlaWood from Black Cobra is manufactured using virgin plastic and wood fibers, which are highly resistant to extreme weather, moisture, termites and require low maintenance. PlaWood won't rot, crack, warp like timber used for interior and furniture making.

PlaWood is leading the way with its environmental friendly, low maintenance range of thermoplastic composite boards.

PlaWood is conserving our precious forest timber and contributes positively to reducing global warming and habitat degradation. Black Cobra PlaWood does not require painting, staining or oiling and this avoids using potentially polluting preservatives.



101%
Termite Borer Water
Proof



HIGHER LOAD BEARING



HIGH SCREW HOLDING CAPACITY



101% WATER PROOF



ECO-FRIENDLY



101% TERMITE PROOF



FIRE RETARDANT

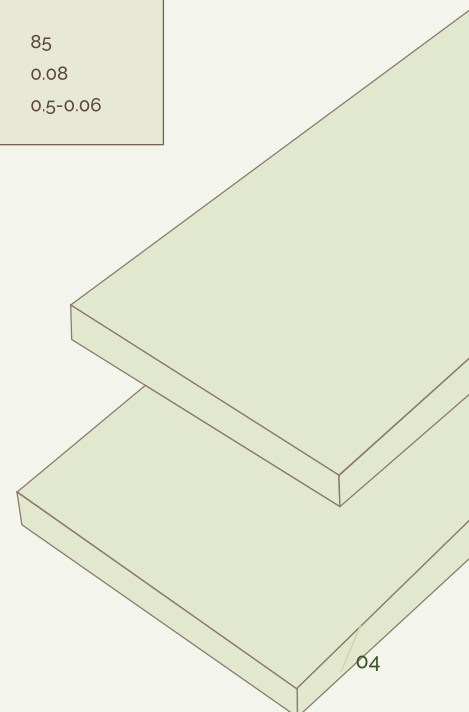
CHOOSE AS PER YOUR USE

PlaWood HD | PlaWood Optima | PlaWood Platina

Black Cobra PlaWood is available in three variants, PlaWood HD, PlaWood Optima & PlaWood Platina having different densities. The purpose of these three different density panels is to provide options as per your requirement.

PLAWOOD DENSITY VARIANTS

| Properties | Unit | PlaWood HD | PlaWood Optima | PlaWood Platina |
|---------------------------------|-------------------|------------|----------------|-----------------|
| PHYSICAL | | | | |
| Density | kg/m ³ | 675 | 550 | 500 |
| Hardness | shore 'D | 48 | 45 | 42 |
| Water Absorption | % | 1.0 | 1.0 | 1.0 |
| MECHANICAL | | | | |
| Tensile Strength | mpa | 20 | 18 | 15 |
| Izod Impact Strength | KJ/M2 | 10 | 9 | 8 |
| ELECTRICAL | | | | |
| Dielectric Strength | kv/cm | 90 | 80 | 70 |
| THERMAL | | | | |
| Vicat Softening Temp | °C | 85 | 85 | 85 |
| Coefficient of Linear Expansion | mm/m°C | 0.08 | 0.08 | 0.08 |
| Thermal Conductivity | W/mk | 0.5-0.07 | 0.5-0.06 | 0.5-0.06 |



BENEFITS OF PLAWOOD

Carpenter Friendly

PlaWood can be cut, sawed, screwed, engraved and drilled into seamlessly. Such physical properties make it easy to mount and fabricate. In addition, PlaWood also ensures aesthetics and perfection as it can be painted onto finely.



High Density

PlaWood is made with eco-friendly virgin materials in such a way that its structure becomes denser, which prevents it from twisting and bending. PlaWood offers firmness and durability for all kinds of applications.



100% No entry for termites

PlaWood boards are completely termite proof. This is a highly beneficial feature, especially in countries like India, as PlaWood conserves your products from insects and maintains them with quality and appeal.



Resistant to Warping

Warping is a major disadvantage with wood as it happens all the time due to erroneous processing and quality issues. Being a WPC board, PlaWood is resistant to warping ensuring more life and appeal.



Moisture & Weather Proof

Being a WPC board, PlaWood has excellent immunity against moisture and the changing weather. This unique feature ensures that signage and promotional equipment crafted from PlaWood lasts through tough weather.



High Impact Strength

One of the best features of PlaWood is its high impact strength, which makes it apt for insulation, display boards and furnishing. PlaWood assures protection and resilience owing to its tenacity.



Excellent Insulation

PlaWood offers proper insulation and is therefore a suitable choice for false ceilings, partitions, cabinets and shields. With good acoustic properties as well, PlaWood makes an excellent material for different residential and commercial utilities.



PLAWOOD VS HDF/MDF VS PLYWOOD

| Sr. No. | Characteristics | Black Cobra PlaWood | HDF/MDF Boards | Plywood |
|---------|---------------------------------|--|--|--|
| 01 | Water Absorption Rate | These modern WPC boards are completely water proof and suitable for installation in wet areas. | They start swelling up immediately after being submerged in water. | It has a substantial water absorption rate as it is majorly made up of wood. |
| 02 | Termite Attacks | PlaWood is made with a mixture of natural wood and plastic, which makes it highly non-susceptible to termite infestations. | These are made with wood chips in compression moulding machines. This may lead to termite infestation. | It is not at all safe from termite or borer infestations. |
| 03 | Certifications | PlaWood is an IGBC and GRIHA certified product as it uses no harmful chemicals during production. | HDF/MDF boards are made with the use of harmful chemicals; hence they are hazardous to human health. | Plywood is made using natural wood, making them not very environment friendly. |
| 04 | Lamination | Lamination of PlaWood is not mandatory. | HDF/MDF boards have to be mandatorily laminated or painted. | Plywood has to be laminated. |
| 05 | Cost | PlaWood's cost might be slightly higher than HDF/MDF boards, but taking into consideration the various advantages, no added costs and no need of maintenance, it is more cost effective product. | Cost of HDF/MDF boards is high because of the other costs associated with them including lamination, adhesive, labour costs. | Plywood are slightly cheaper, but similar to HDF/MDF boards, associated costs make them expensive in the long run. |
| 06 | Exterior/ Interior Applications | PlaWood is extremely strong and its application potential is endless including kitchens, wardrobes, bathroom vanities, exterior spaces, etc. | HDF/MDF boards are okay to use in office furniture, but for other applications it not a good choice because they can get easily get damaged. | Plywood is perfect for interior applications, but it is not recommended to use plywood in exterior applications. |
| 05 | Fire Retardant | PlaWood is specially designed to have excellent fire retardant properties. | No, HDF / MDF boards do have high fire resistance. | Plywood is mostly made with wood, so it not fire retardant. |
| 06 | Environment Friendly | PlaWood is made with virgin plastic and wood fibers, making it very environment friendly. | No, it is not environment friendly. | Plywood is obviously not environment friendly as it is made up of wood. |



APPLICATIONS



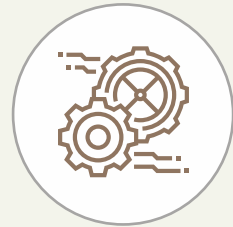
Household



Modular Kitchen



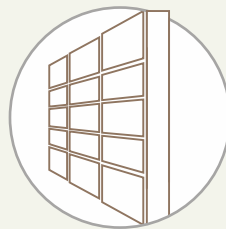
Furniture Industry



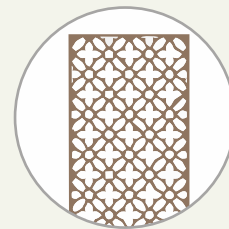
Automotive Industry



Shuttering Industry



Wall Paneling



Partition Panels

| Features | Applications | Suitable for |
|-----------------------------------|---------------------------------|----------------|
| Minimum contraction and expansion | Wardrobes | Cutting |
| Easy to mould, screw or grout | Cabinets | Sawing |
| Various finishes can be done | Countertops and tables | Shearing |
| Quicker installation | Doors | Punching |
| Water Proof & Moisture Proof | Partitions | Drilling |
| Termite Proof & Pest Proof | False Ceilings | Nailing |
| Paintable & Washable | Laboratory Tables | Milling |
| Solid & Light Weight | Full Work Stations | Riveting |
| Weather & Ageing Resistant | Wall Cladding | Screwing |
| No Shrinking & Swelling | Signage | Painting |
| Bacteria & Fungus Resistant | Fencing | Printing |
| Fire Retardant | Switch Cabinets | Photo Mounting |
| Timeless Warranty | Electric control Panels | Embossing |
| Maintenance Free | Advertising Board and many more | Engraving |
| 100% Recyclable | | |
| Environment Friendly | | |

INDIA'S HIGHEST QUALITY WPC

DOOR

FRAME



MADE USING INDIA'S 1ST 72 HRS COLD WATER CURING PROCESS FOR ENSURING LIFE LONG DURABILITY.



READY TO PAINT & POLISH
IN ANY COLOR YOU WANT



101%
WATER PROOF



101% TERMITE
& BORER PROOF



FIRE
RETARDANT



HELPS KEEP DOOR OPERATING
AND LOOKING GREAT FOR YEARS



ECO
FRIENDLY



HIGH
DENSITY

Frame your door with the authentic beauty of wood polymer composite. BLACK COBRA door frames are durable, low maintenance & ready to use. Our entry door frame designs blend beautifully with finishes. The exclusive innovations provide exceptional protection from drafts and leaks making your door stay looking great for years.

WPC VS WOOD

| Property Item | wood | WPC |
|---------------------------------|----------|--------|
| Regidity & Compressive Capacity | High | High |
| Processibility | Easy | Easy |
| Reprocess Capacity | Yes | Yes |
| Durability | Ordinary | Long |
| Anti-Sun Ageing Resistance | Good | Good |
| Frequency of Maintenance | Often | Seldom |
| Corrosion Property | Bad | Good |
| Recuperability | No | Yes |

SPECIFICATION

Size available: 100 x 50 mm | 125 x 50 mm | 150 x 50 mm | 75 x 40 mm
 Width: 3x2, 4x2.5, 5x2.5, 6x2.5 inch | Length: 7 feet & 11 feet | High Density: 1.0g/cm³
 Color: Walnut & any type of surface treatment are possible

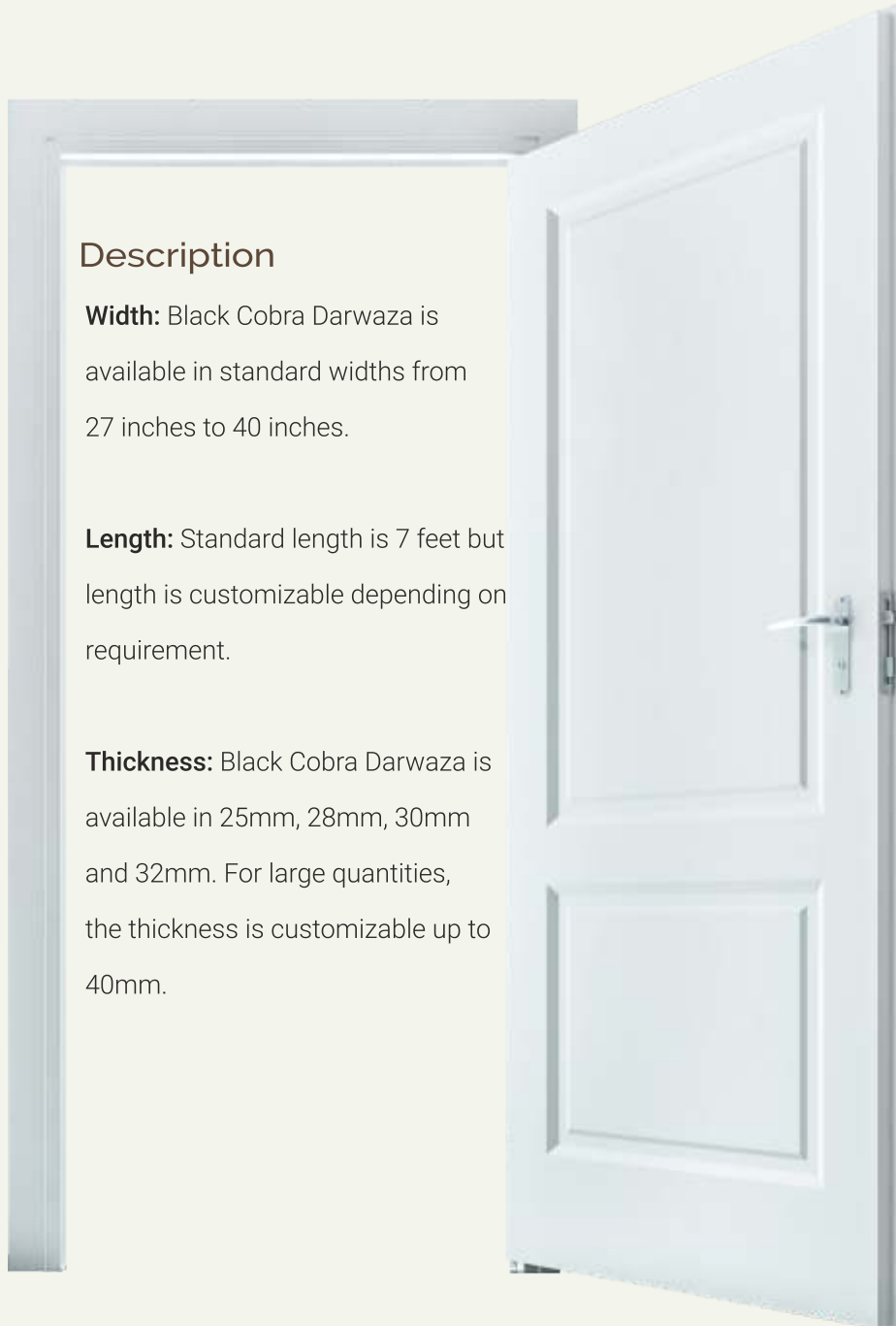
HIGH DENSITY WPC DOORS

Description

Width: Black Cobra Darwaza is available in standard widths from 27 inches to 40 inches.

Length: Standard length is 7 feet but length is customizable depending on requirement.

Thickness: Black Cobra Darwaza is available in 25mm, 28mm, 30mm and 32mm. For large quantities, the thickness is customizable up to 40mm.



READY TO PAINT & POLISH
IN ANY COLOR YOU WANT



101%
WATER PROOF



101% TERMITE
& BORER PROOF



FIRE
RETARDANT



HELPS KEEP DOOR OPERATING
AND LOOKING GREAT FOR YEARS



0%
SHRINKAGE



ECO
FRIENDLY



HIGH
DENSITY

SURFACE DECORATION OF WPC DOORS:

- Can be used without surface protection like HPL or Prelam
- Direct painting
- Direct lamination without glue
- Entire sheet can be post formed
- Direct printing with high resolution
- Direct UV coating with high gloss, gloss & matt finishes
- Can be laminated with HPL
- PVC edge bending - best fit



CUSTOM DESIGNS

Black Cobra has in house facilities to do custom design work on Black Cobra Darwaza (2D and 3D designs). These services are available at an extra service charge. Some sample designs are shown below for your reference.





QUALITY CONTROL, PRODUCTION PROCESS, ETC

Black Cobra is a brand that takes pride in keeping quality of its products the number one priority right from the procurement of the raw materials to the manufacturing of the product, we have created an extensive network of quality checks.

PlaWood embraced all ISO parameters to earn ISO 9001-2008 accreditation an achievement that has strengthened its credibility and clientele's trust. In-house quality control labs are maintained by us that are equipped with latest quality check equipments.

Assisted by a team of experienced QA and QC managers, we check raw materials and other basic material thoroughly before using them in the manufacturing process. In addition to this, our experts monitor all the steps of production so that every batch dispatched by us is in conformity with the strictest quality standards.

Our range is tested on multiple parameters such as Density, IZOD Impact Strength, Hardness, Tensile Strength, Dielectric Strength, Fire Retardancy, Color Testing under different light conditions, etc.

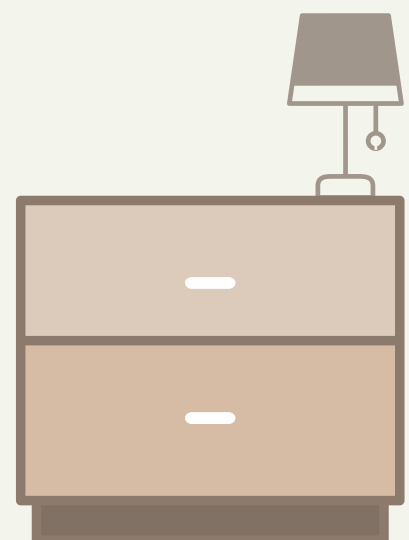
Our Total Quality Management (TQM) runs on:

Preclusion

We believe in preventing flaws from occurring in the first place itself rather than mending them later on. Therefore, we procure the finest quality raw material from certified vendors. Presenting products that have zero defects is both our priority and ultimate aim.

Constant Innovation

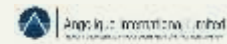
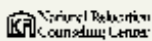
Flawless products are important but equally important is the need to innovate and keep the range up to the mark with the reigning trends of the market. New designs mean enhancement both in terms of appearance and utility which in other words means enriching the quality aspect of the entire products range.





BLACK COBRA & ALEX PANELS' PRESTIGIOUS CLIENTS

We have been serving quality building materials to some of the most respected names in the industry since 1995, and now we look forward to serving you.





CERTIFICATIONS

Black Cobra PlaWood has been accredited with prestigious certifications

SGS CERTIFICATION FOR HIGH SCREW HOLDING CAPACITY

SGS

TEST REPORT

| | |
|--------------------------------|---------------------------------------|
| Report No. : MAN:HL:1148005029 | DATE : 28 th October, 2020 |
|--------------------------------|---------------------------------------|



TEST RESULT:

DIRECT SCREW WITHDRAWAL:
METHOD: ASTM D1037 – 12 SECTION 16
Test Condition: Specimen: 82.5mm×83.8mm×18.5mm
 Threaded depth: 17mm
 Out diameter of screw: 4.2mm
 Root diameter of screw: 3.5mm
 Diameter of lead hole: 3.2mm
 Testing speed: 1.5mm/min

| Test Item | Result | Requirement |
|-------------------------|--|-------------|
| Direct Screw Withdrawal | The Face Of The Panel: 825 N The Edge Of The Panel: 626 N | / |

Tested Item: BLACK COBRA PVC/WPC FOAM BOARD

Note :

- All test specimens were cut from the sample.
- Testing has been subcontracted to SGS overseas lab.
- Testing has been performed as per client's request.

Sample as Received



*****END OF REPORT*****

CIPET TEST FOR DARWAZA

सिपेट, मुरथल


CIPET मुरथल
CIPET MURTHAL

Continuation Sheet

Test Report No. 0271B
Date: 23/11/2020

Sample Details: WPC Products Sample as per party requirements – reg.
(Sample Code: 30 mm, Door)

| PART - C TEST RESULTS | | | | |
|-----------------------|---------------------|-----------------------------|-------------------|---------------------|
| Sl. No. | Name of the Test | Testing Standard/ Method | Unit | Test Value Obtained |
| | | | | 30 mm, Door |
| 1. | Fire Retardant Test | ASTM D 635 | - | Conforms |
| 2. | Flexural Strength | ASTM D790 | N/mm ² | 16.99 |
| 3. | Izod Impact Test | ASTM D 256 | J/m | 4.29 |

PART - D REMARKS

Note:

1. This Test Report shall not be used for any legal purpose nor published, advertised, reproduced partially or fully unless otherwise written prior permission has been obtained from this laboratory.
2. This test report is only for the sample tested as supplied by the party.
3. (*) Test has been Subcontracted in our other NABL accredited Laboratory - Nil.


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Page No. 2 of 2

CIPET TEST FOR PLAWOOD

सिपेट, मुरथल




CIPET, MURTHAL
Test Report No. 0271A
Date: 23/11/2020

Continuation Sheet

Sample Details: WPC Products Sample as per party requirements – reg.
(Sample Code: HD-18mm, WPC foam Board)

PART - C TEST RESULTS

| Sl. No. | Name of the Test | Testing Standard/ Method | Unit | Test Value Obtained |
|---------|---------------------|-----------------------------|-------------------|-------------------------|
| | | | | HD-18mm, WPC foam Board |
| 1. | Fire Retardant Test | ASTM D 635 | - | Conforms |
| 2. | Flexural Strength | ASTM D790 | N/mm ² | 24.90 |
| 3. | Izod Impact Test | ASTM D 256 | J/m | 7.01 |

PART - D REMARKS

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Page No. 2 of 2

CIPET TEST FOR CHOUKHAT

सिपेट, मुरथल

CIPET, MURTHAL
Test Report No. 0271C
Date: 23/11/2020

Continuation Sheet

Sample Details: WPC Products Sample as per party requirements – reg.
(Sample Code: 5/2.5, Door frame)

PART - C TEST RESULTS

| Sl. No. | Name of the Test | Testing Standard/ Method | Unit | Test Value Obtained |
|---------|---------------------|-----------------------------|-------------------|---------------------|
| | | | | 5/2.5, Door Frame |
| 1. | Fire Retardant Test | ASTM D 635 | - | Conforms |
| 2. | Flexural Strength | ASTM D790 | N/mm ² | 18.18 |
| 3. | Izod Impact Test | ASTM D 256 | J/m | 14.20 |

PART - D REMARKS

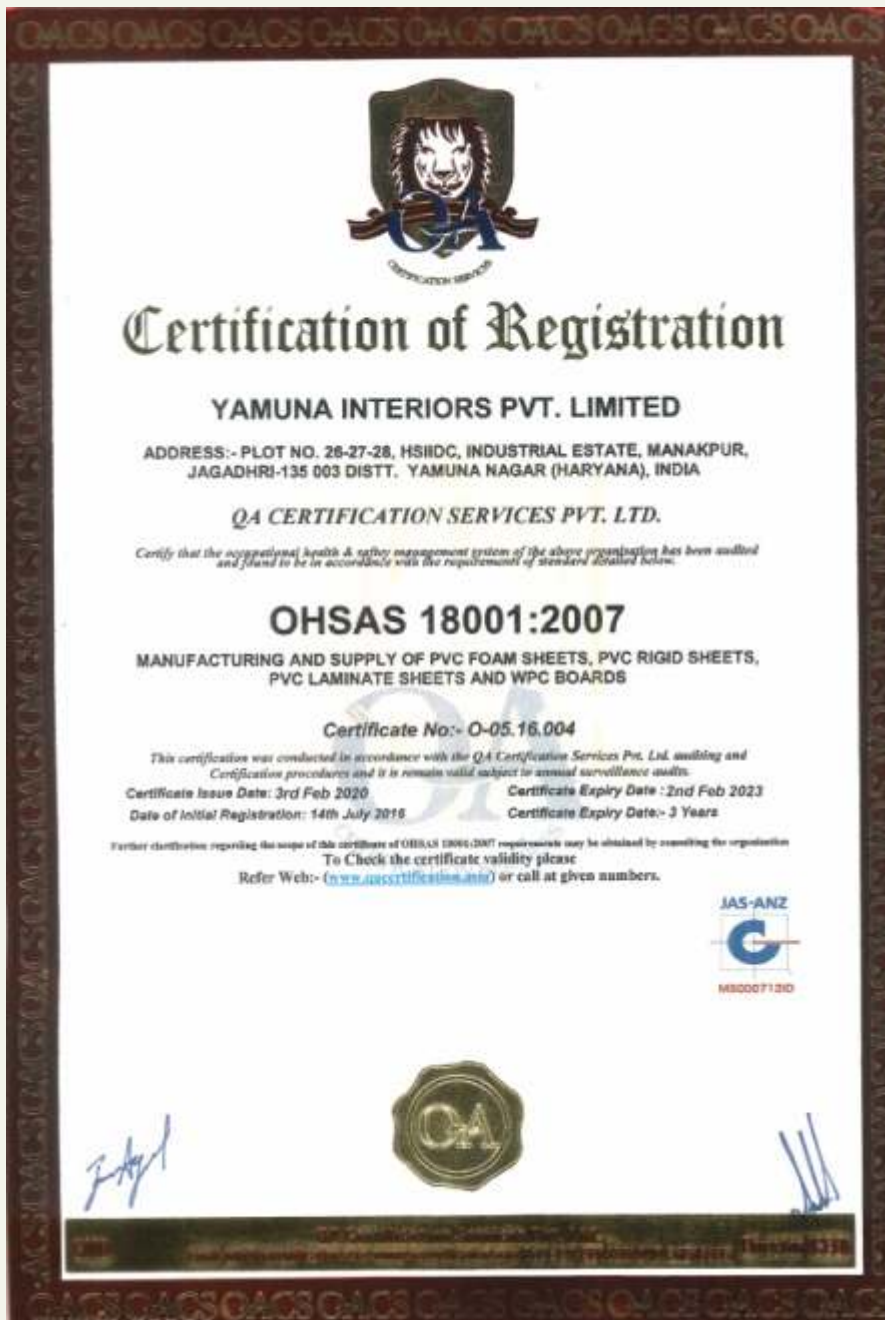
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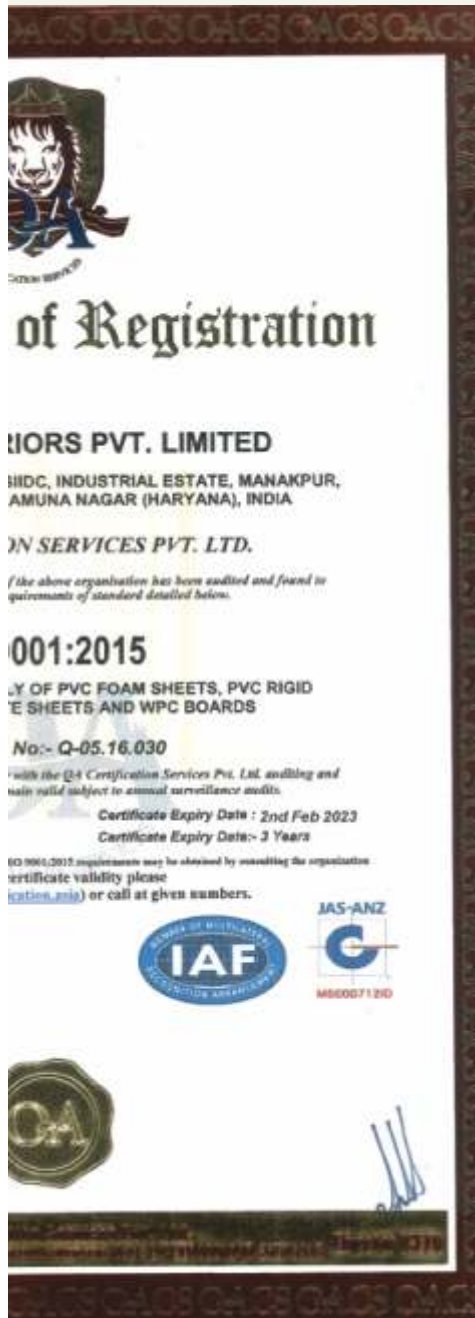
OHSAS 18001:2007 (Occupational Health and Safety Management Certification)



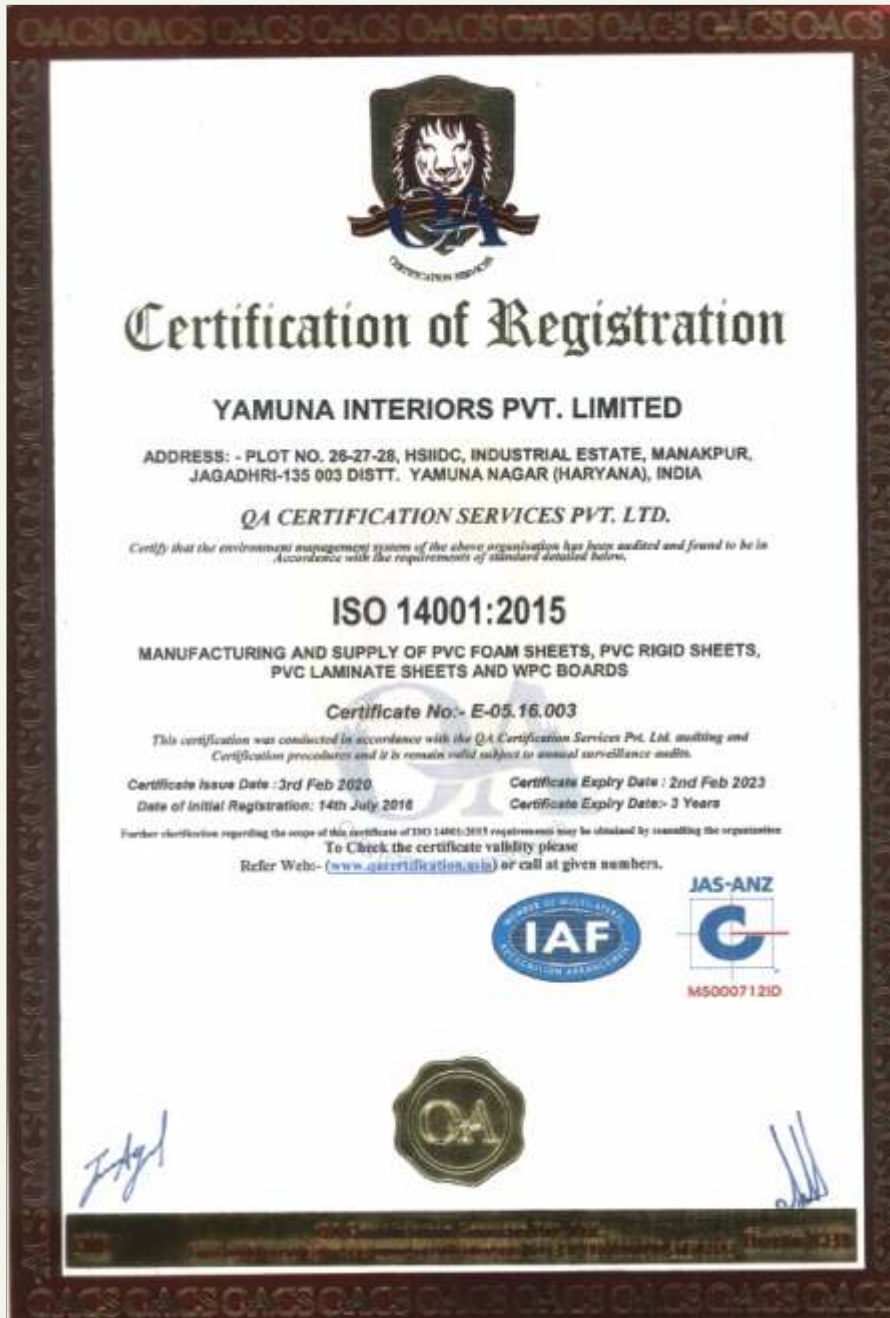
ISO 9001:2015 (Efficiency Management System Certification)



(Effective Quality Management System Certification)



ISO 14001:2015 (Effective Environmental Management System Certification)



FAQs

1. What is the price comparison of Black Cobra PlaWood with other building materials such as wood, plywood, MDF, etc.?

- PlaWood's pricing may be similar to teak wood, marginally higher than good quality marine plywood and higher compared to regular/ low quality, plywood, MDF, Particle Board and other materials. However, its star features make it the most economical product among all building materials. A few features to highlight:
- It is unaffected by water, salt, termite, insects or other life limiting factors.
- It is a finished product and needs no buffing, polishing or lamination, which saves cost of additional material and labor.
- It is a health-friendly product and uses no Lead or Cadmium unlike other PVC/WPC Board manufacturers in India.

2. Will PVC/WPC board such as PlaWood corrode?

- No, PlaWood will not corrode from natural weathering, moisture, or insects as long as it is used and maintained properly. An example of misuse and wrongful maintenance is applying acid or harmful chemicals to the boards.

3. What is the best paint to use?

- Although Black Cobra PlaWood does not need to be painted, some choose to paint it. The best types of paint to use are acrylic, PVC paint and two component polyurethane compounds. Black Cobra PlaWood does not need to be primed before painting, but it can be for better results.

4. Can we screw and use nails on PlaWood?

- You can use screw and nail on Black Cobra PlaWood without any hesitation. We strongly recommend the use of PATTA screws for maximum screw holding strength and durability. It is advised to nail PlaWood atleast 6 millimeters from the edge to avoid splitting. It can be drilled like wood. While bolting, larger size washers should be used to spread the weight load. You may also use caulking or other fillers to fill the hole.

5. How is PVC/WPC compared to wood in workability?

- PlaWood can be easily worked with standard tools that are used for woodworking carpentry. It can be cut, turned, drilled, planned, milled, screwed, polished and much more. It can be fabricated with all possible woodworking machines like Board saw, Vacuum press, CNC Router, Edge benders, Multi boring and other machines with utmost ease and satisfaction.

6. How is Black Cobra PlaWood eco-friendly?

- PlaWood is degradable and recyclable. We recycle and reuse PVC/WPC to help reduce our carbon footprint on earth while using Lead Free and Food Grade additives. PVC/WPC is also a great substitute for using wood. By helping reduce the amount of trees being cut down, we believe Black Cobra is ultimately helping keep the world green.

7. What is Wood Plastic Composite?

- As its name might suggest, wood plastic composite (WPC) is a material created from a unique blend of natural wood and plastic fibers. Sawdust, pulp, bamboo, peanut hulls and unused woodworking materials, like bark, from a variety of projects, are combined with plastic powder to form WPC.
- What's most remarkable about wood plastic composite is that it can be created entirely from recycled materials collected from C&D operations, wood product manufacturing facilities, and more. To top it off, used WPC can even be recycled to create brand new WPC, making WPC the ultimate recyclable commodity.

8. Is PlaWood the real lumber alternative?

- Depending on what material the sawdust is blended with – polyethylene or polypropylene – WPC can be used for a variety of construction projects in much the same way as natural lumber. Drilling, planing, sanding; it's all done just as easily with WPC as it is with wood.
- Construction professionals may even find that wood fasteners, like nails and screws, actually achieve a better hold in WPC as compared to regular wood. Additionally, WPC is less likely to split or break when screws are used near the end of the planks, which can be a common problem when using real wood.

9. Can WPC defy the elements?

- Thanks to WPC's specialized and customizable makeup, the material is uniquely equipped to handle changes in weather with less damage than the average material. If you're looking for a material that will stand the test of time for your next project WPC might just be the one for you.

10. What can we do with the surface of PlaWood?

- PlaWood's surface can be screen printed, painted, colored, coated, polished, varnished and laminated with different surface materials. PlaWood can adhere to plywood and related products, Masonry, Glass, ACP, Mica, Veneer and other materials using appropriate fasteners.

BLACK COBRA®

HIGH DENSITY PVC/WPC BOARD, DOOR & DOOR FRAME



**HIGHER LOAD
BEARING**



**HIGH SCREW
HOLDING CAPACITY**



**101%
WATER PROOF**



**ECO-
FRIENDLY**



**101%
TERMITE PROOF**



**FIRE
RETARDANT**

YAMUNA INTERIORS PVT. LTD.

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Yamuna Nagar - 135001, Haryana

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