



6mm

**Another world for quality
A laminate for every season**



Introduction

Welcome to the world of Northern Laminates, a name that spells confidence of trust, quality, reliability and beauty. It offers an exclusive range of exterior grade compact laminates that are specially designed to beautify your exteriors, which drives people towards the panache of vivid and vibrant lifestyle with a grace of superiority on a visibility factor. Our state-of-the-art offers an elegance with tasteful patterns that can enhance the look of all kinds of outer surfaces. It conveys richness and has a touch of global brilliance of finest and the best. Aesthetically planned, our exterior compact laminates offer industry's best quality clads in terms of performance and create a majestic aura around your house, office and other spaces. We bring you the best of exterior solutions in a variety of designer shades & patterns. It promises an experience of exotic excitement with high gratitude.

The brand Northern Laminates styling symbolizes the artistic way of traditional thinking to move forward. The tincture of logo conveys richness and has a touch of superiority on a visibility factor and it promises the brilliances of finest and the best. It has reinventing luxury with a magnificent simplicity.

Available in 17 spectacular designs, the range allows you to decorate your home, office or entire building structures in a preferred yet distinct style. In order to protect residential, industrial and commercial buildings from extreme weather conditions, this cladding is most commonly used to place at facade of buildings. The provided cladding is manufactured by utilizing the finest quality raw materials and ultra-modern techniques under the guidance of diligent professionals. Northern Laminates focus is on product development, combining quality manufacturing technologies with intelligent solutions for architectural applications. With unique insights into key market challenges and demands, it passionately delivers innovative aesthetically pleasing and high performance solutions for a wide range of architectural needs.

It's a great deal more sustainable which fits in with the current ethos of preserving the earth's natural resources as much as possible. It uses far less wood to manufacture laminate wall than it does to manufacture traditional wood floor boards.

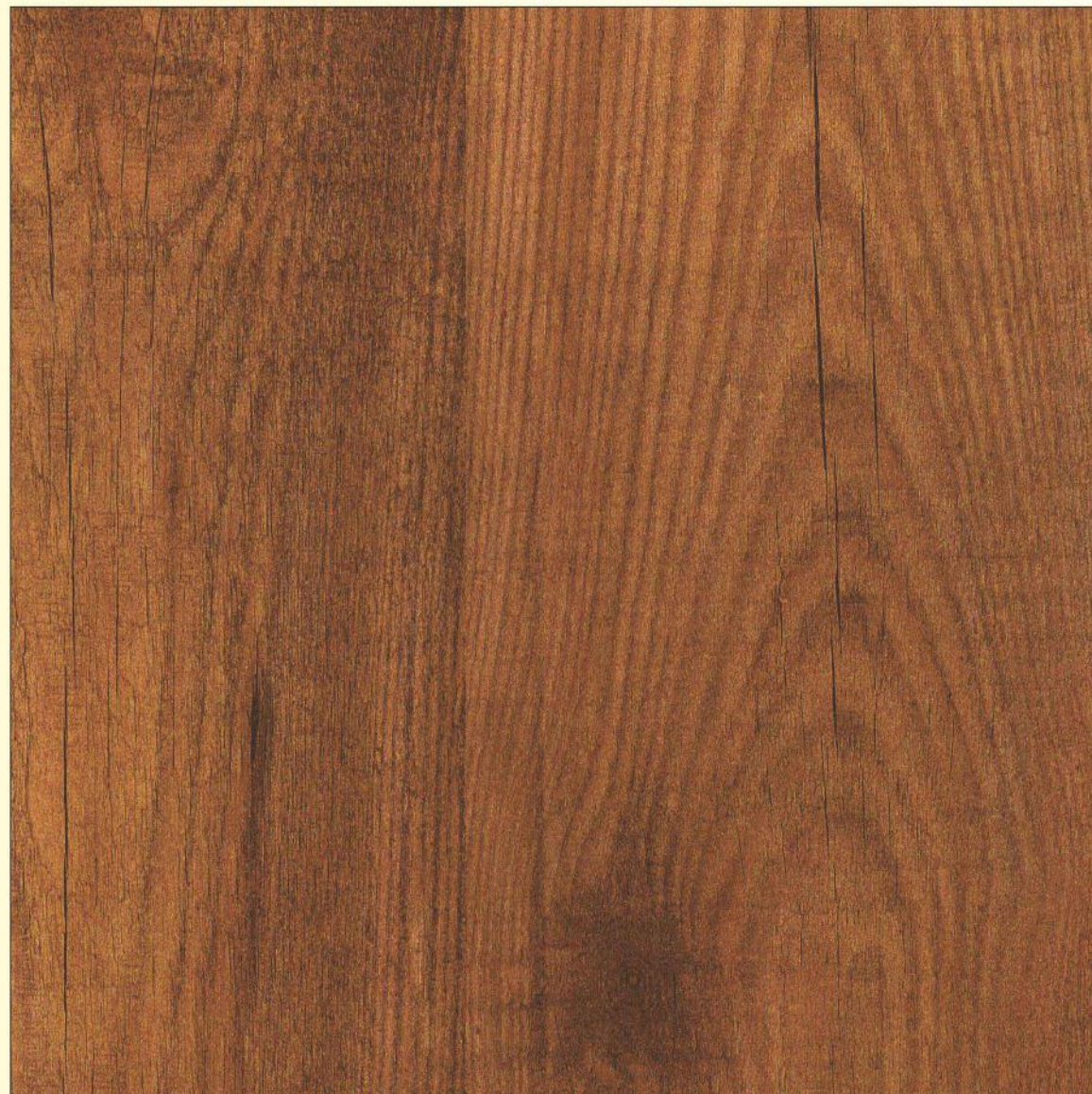
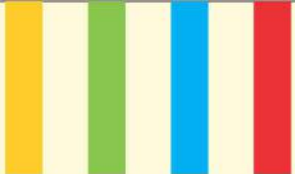
INSPIRE

DESIGN

BEAUTY

TRANSCIENCE





1000

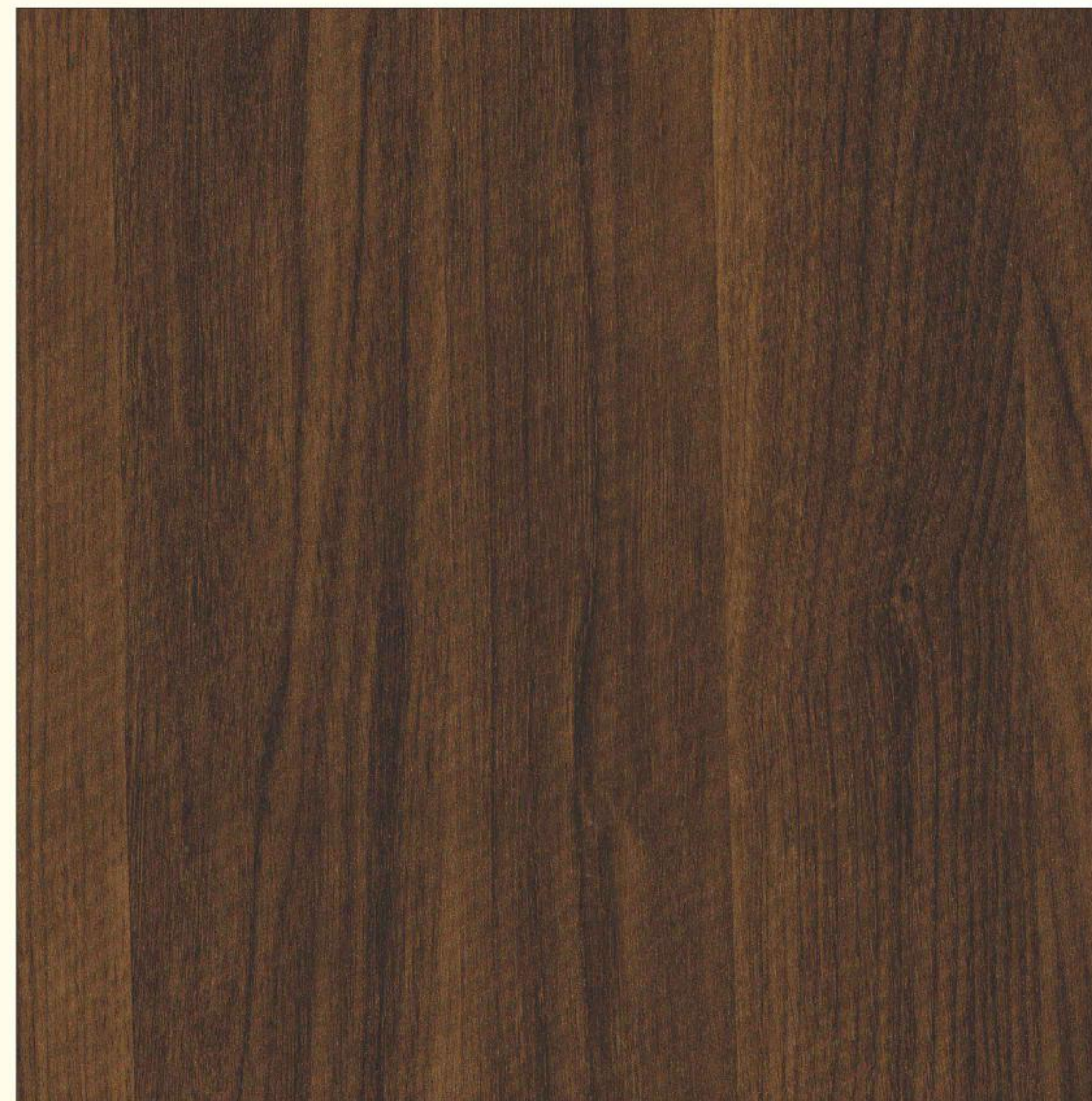


1001





1002



1003



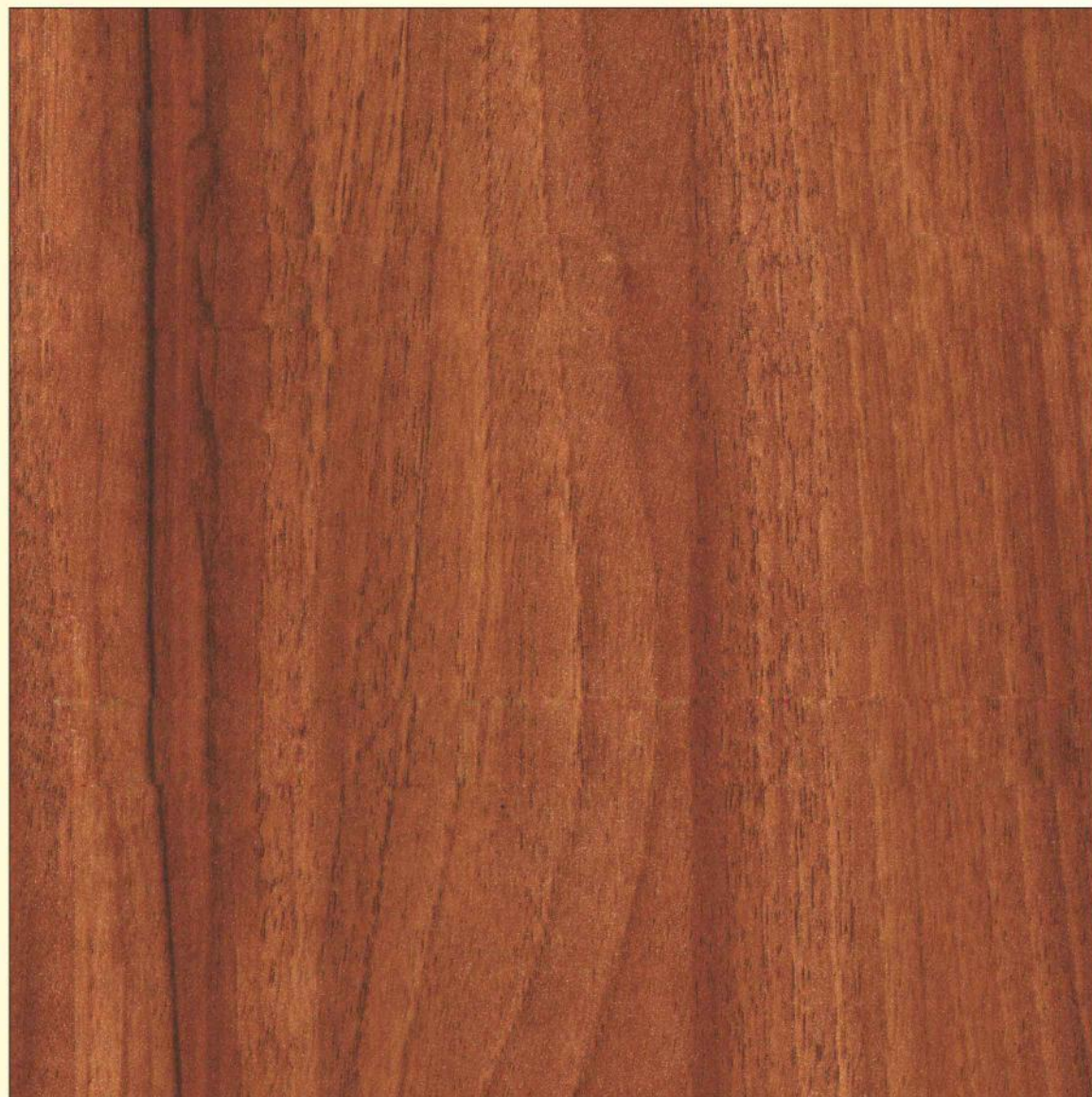
1005

03

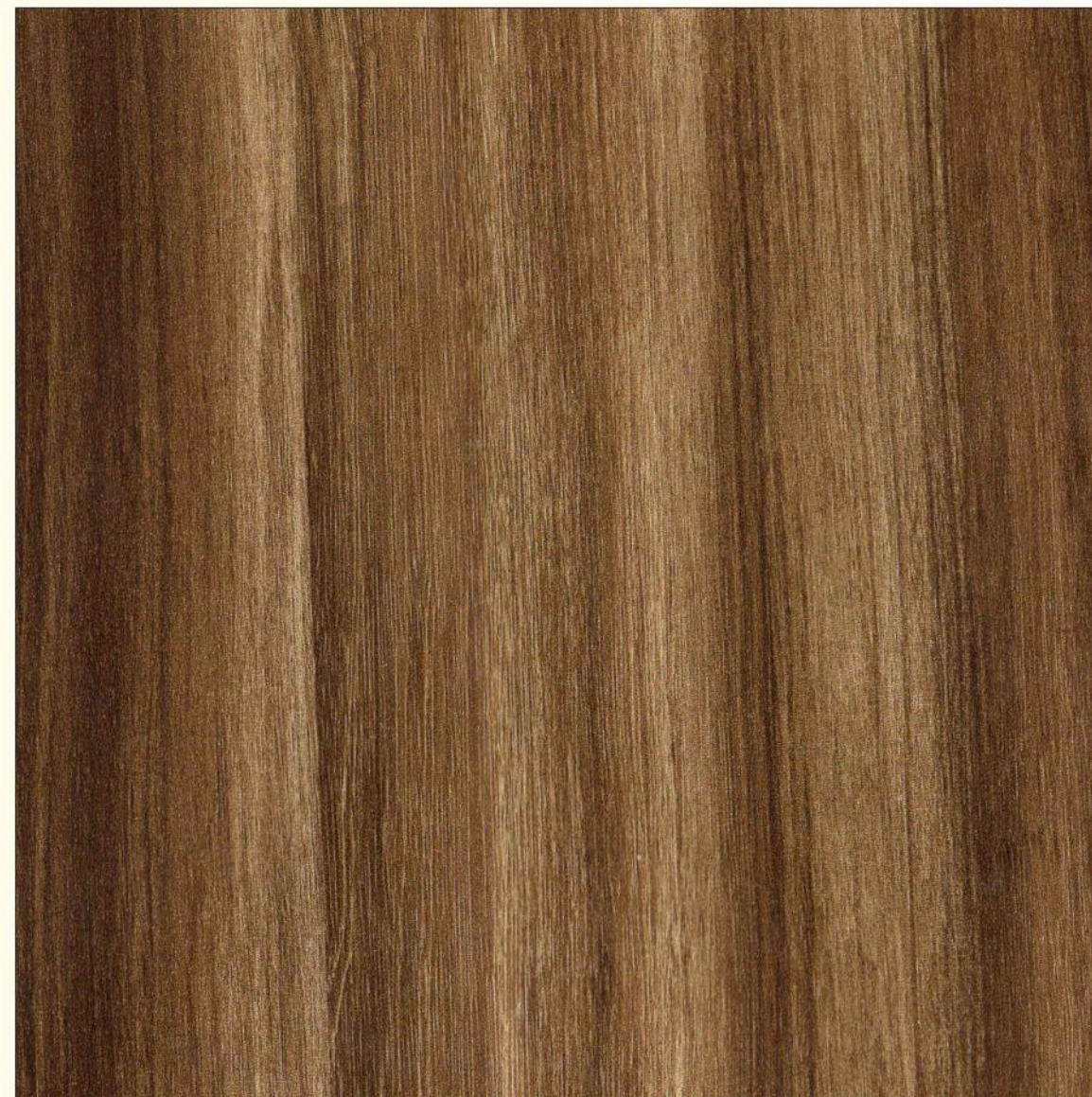


1008

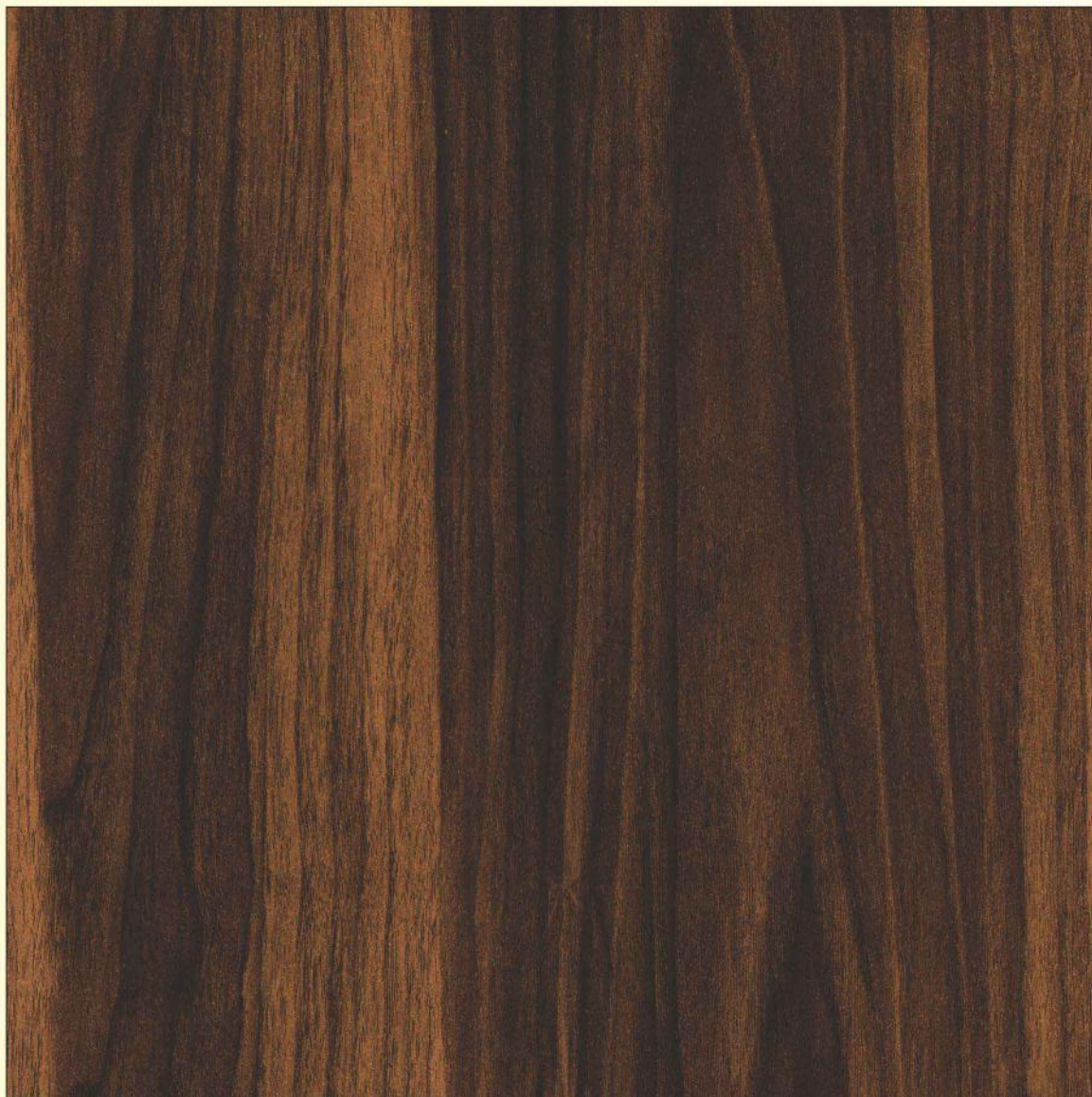




1010

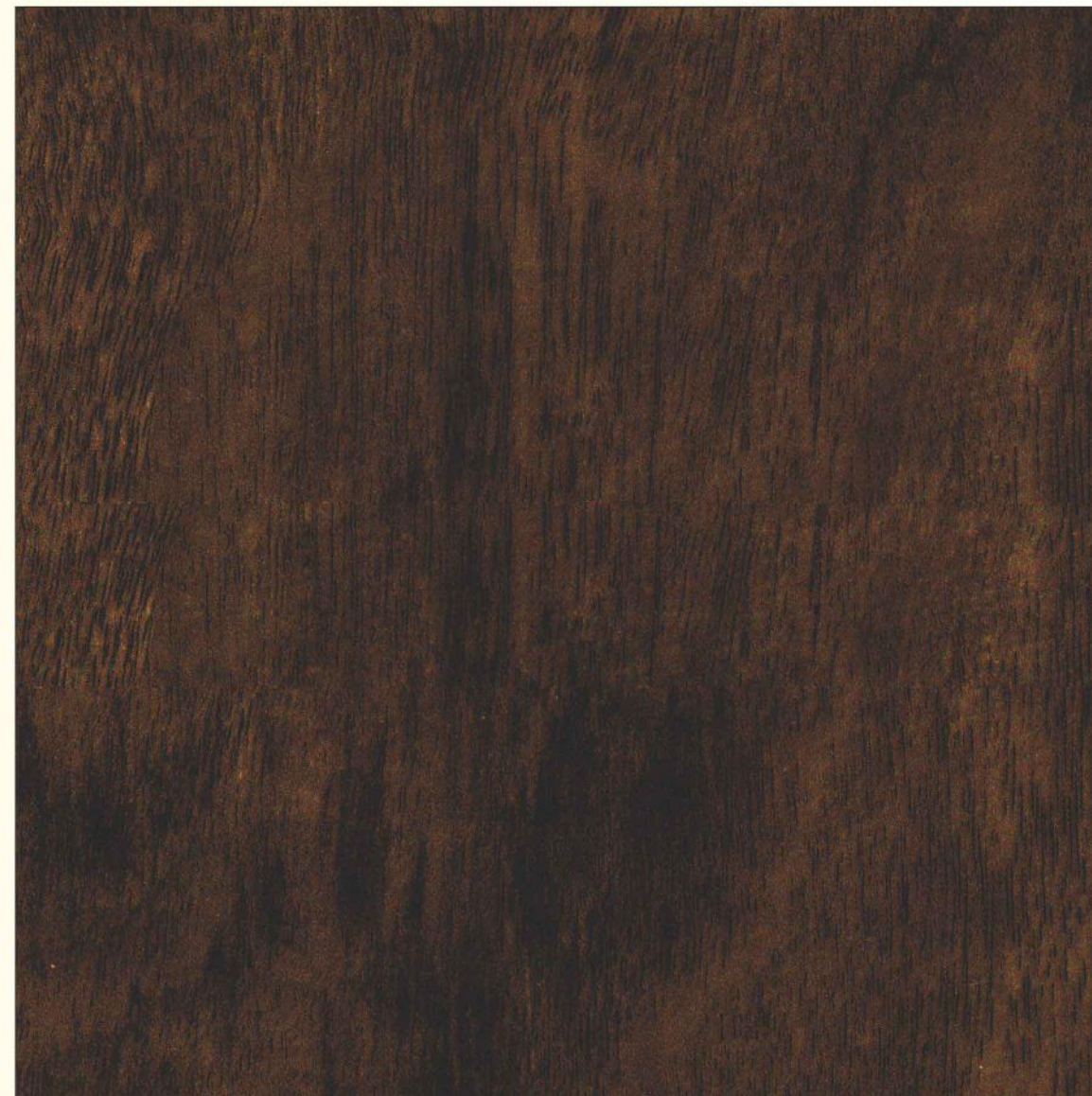


1004



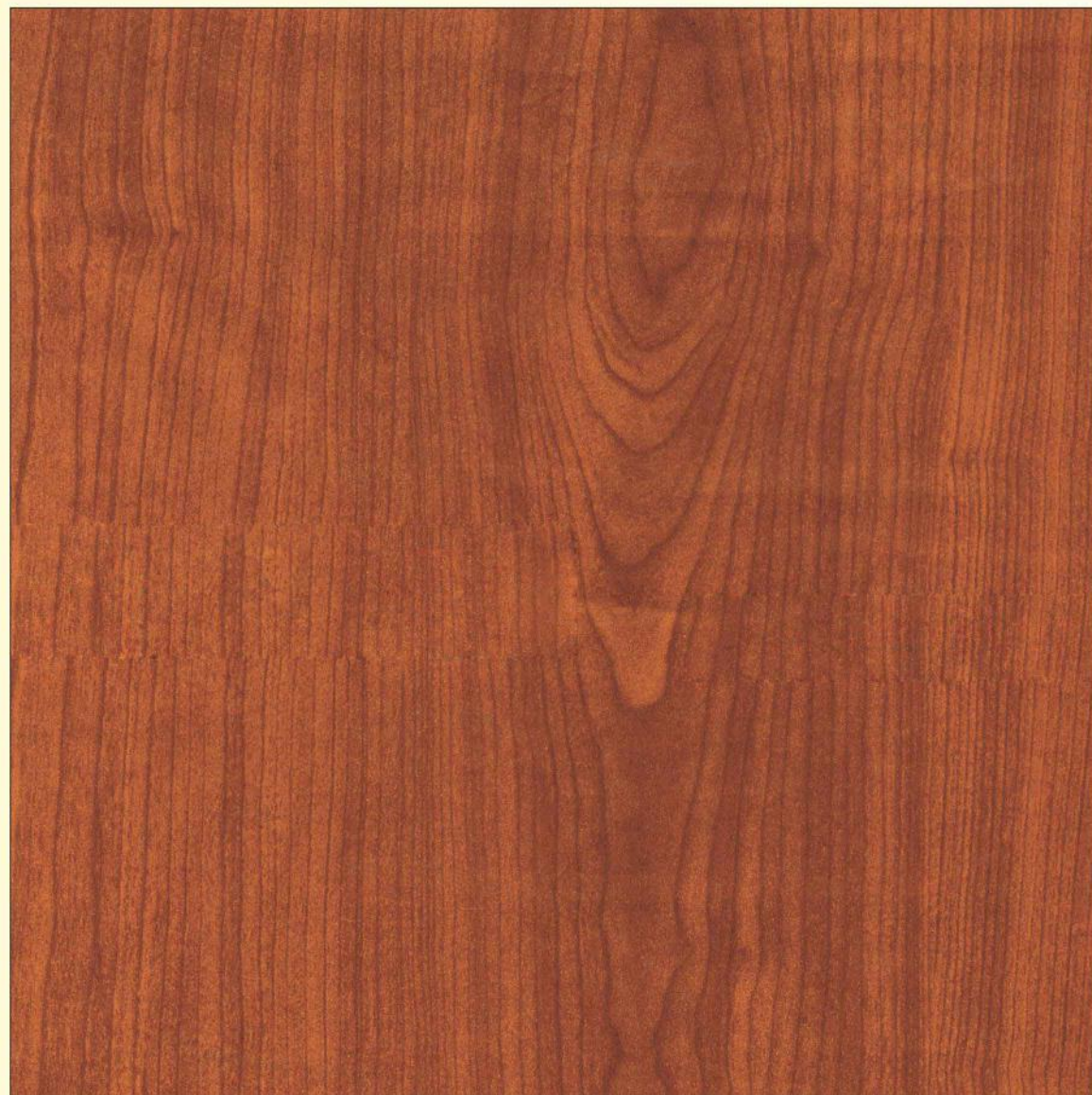
9009

05



9012

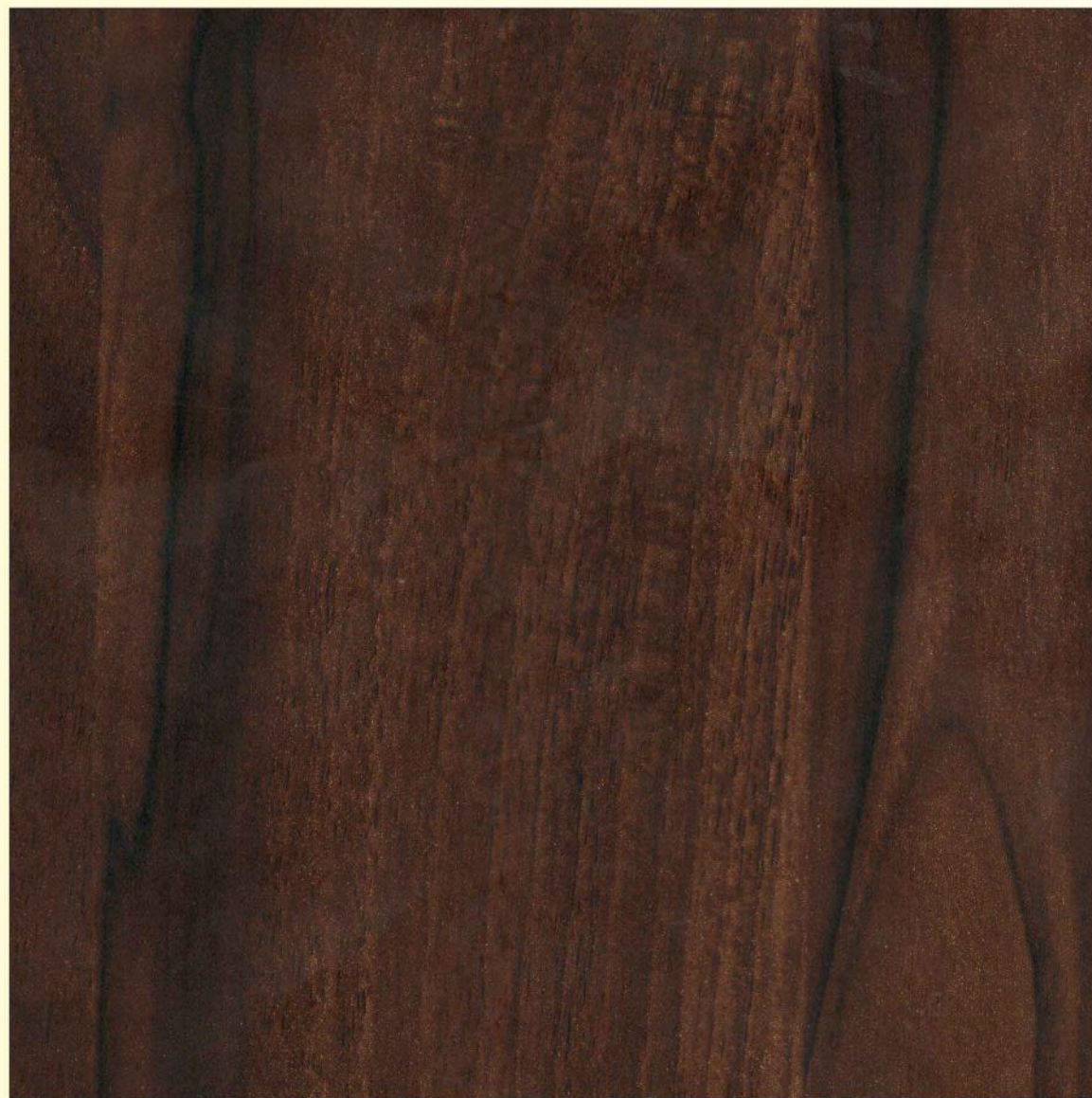




9010



9008



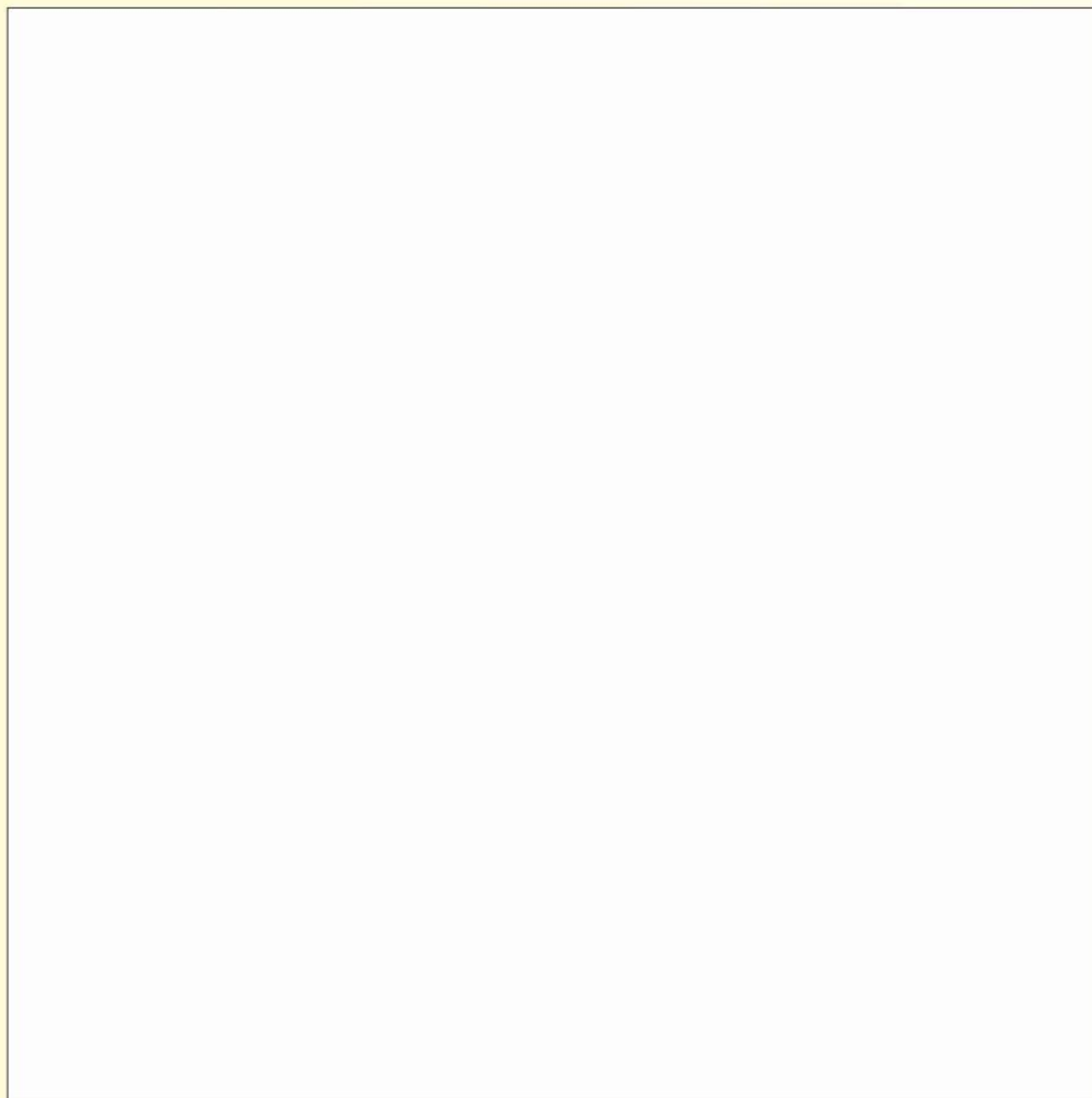
1009

07

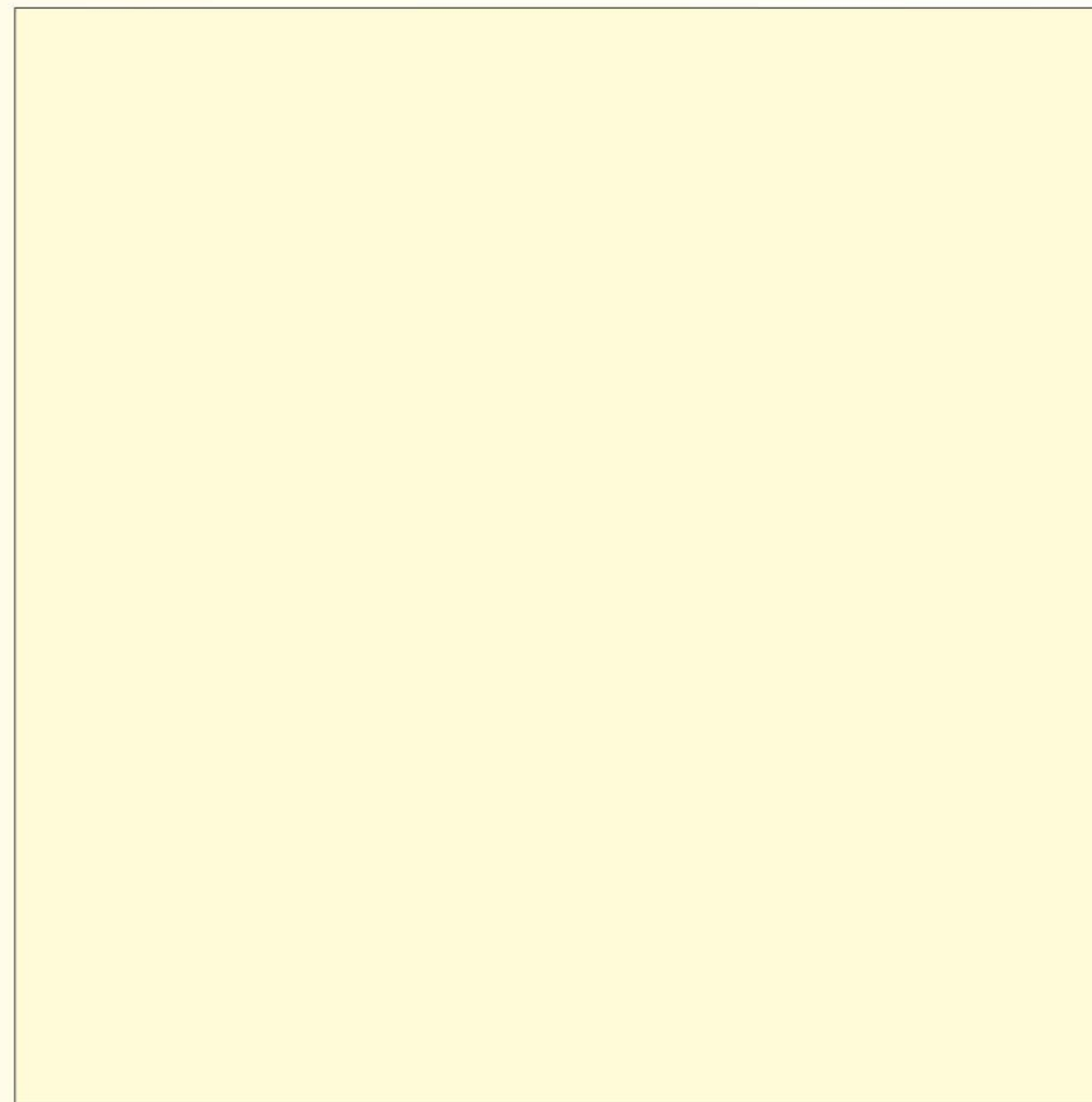


1006





9000 (White)



9001 (Off White)

Technical Details



1007

Properties and Typical Test Values for 6.0mm D/S Size 8'x4' laminate sheet

Sr No.	Property as per EN 438 - 6:2005	Test Method (EN 438 -2, Clause no.)	Unit	Require - ments	Typical Value	
					EGS/EGF	EDS/EDF
1	Surface quality					
1.1	Dirt, spots and similar surface defects	4	mm ² /m ²	≤ 2	≤ 2	≤ 2
1.2	Fibers, hairs and scratches	4	mm ² /m ²	≤ 20	≤ 20	≤ 20
2	Dimensional tolerances					
2.1	Thickness for 6.0mm	5	mm	+/- 0.40	+/- 0.40	+/- 0.40
2.2	Flatness	9	mm ² /m	≤ 5	≤ 5	≤ 5
2.3	Size for 2440mm(L)x1220mm(W)	6	mm	+10/- 0	+10/- 0	+10/- 0
2.4	Straightness of edges	7	mm ² /m	≤ 1.5	≤ 1.5	≤ 1.5
2.5	Squareness	8	mm ² /m	≤ 1.5	≤ 1.5	≤ 1.5
3	Physical Properties					
3.1	Flexural Modules	EN ISO 178:2003	MPa (min)	9000	≥ 9000	≥ 9000
3.2	Flexural Strength	EN ISO 178:2003	MPa (min)	80	≥ 80	≥ 80
3.3	Tensile Strength	EN ISO 527 -2:1996	MPa (min)	60	≥ 60	≥ 60
3.4	Density	EN ISO 1183 -1:2004	g/cm ³	≥ 1.35	≥ 1.35	≥ 1.35
3.5	Resistance to Impact by large diameter ball (Drop height)	21	mm (min)	1800	>1800	>1800
3.6	Resistance to wet conditions	15	% (max) Mass increase	< 8	< 5 (EGS) < 8(EGF)	< 5 (EDS) < 8 (EDF)
3.7	Dimensional stability @ elevated temperature (Cumulative dimensional change)	17	% (max)	< 0.30 (L) < 0.60 (T)	< 0.30 (L) < 0.60 (T)	< 0.30 (L) < 0.60 (T)
4	Weather resistance requirements					
4.1	Resistance to Climatic shocks	19	Rating (min)	4	4	4
4.2	Resistance to UV light	28	Gray scale Rating (not <3)	3	N.A	>3 (1500hrs exposure)
			Rating (min)	4	N.A	4 (1500 hrs exposure)
4.3	Resistance to artificial weathering (including light fastness)	29	Gray scale Rating (not worse than 3)	3	>3 (after 325 MJ/m2 radiant exposure)	>3 (after 625 MJ/m2 radiant exposure)
			Rating (min)	4	4 (325MJ/m2)	4(625MJ/m2)
5	Fire Performance	EN 135 01				
5.1	Fire reaction classification	EN 13823 (CSBI test) and EN ISO 11925 -2 (small burner test)	Classification	B-s2,d0	B-s2, d0 (EGF)	B-s2, d0 (EDF)



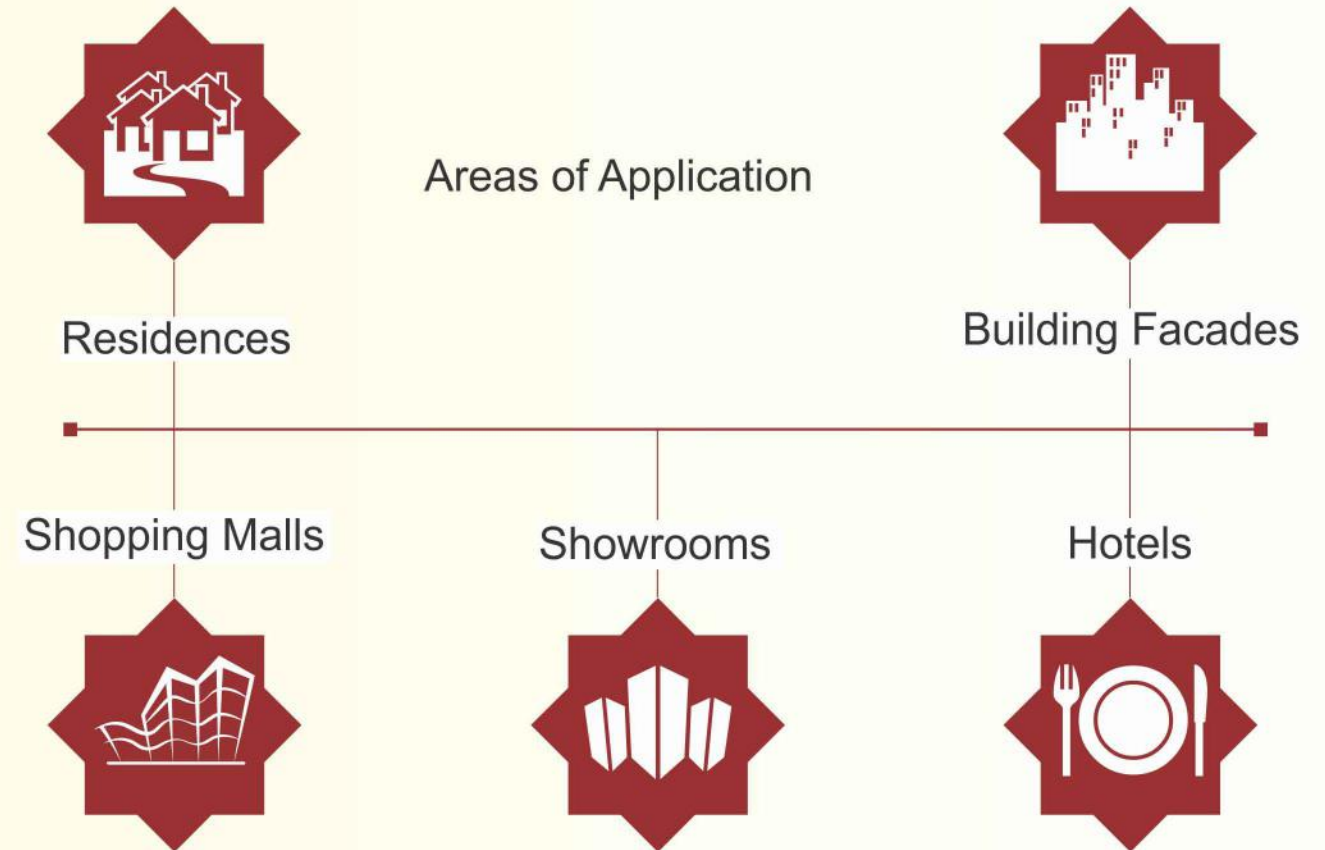
Product Description

Outdoor Wall Cladding Compact Laminate grade is specially formulated laminate for exterior application. This product meets all properties as per BS EN 438-6:2005 Grade EDS & EDF materials. This grade is tested according to EN 438-2.19 & EN 438-2.29 for weather resistant properties as well to EN 135 01 for fire resistant properties required for exterior grade application.

Outdoor laminate is made with special type of synthetic polymers with acrylic coating technique that provides superior weather ability, excellent UV-absorbance and heat resistant performance.



1. SPECIALLY TREATED ACRYLIC RESIN LAYER
2. DECORATIVE PAPER
3. PHENOLIC TREATED KRAFT PAPER
4. DECORATIVE PAPER
5. SPECIALLY TREATED ACRYLIC RESIN LAYER





Properties



Weather Resistance: Outdoor Wall Cladding is weather resistant when exposed to conditions of high temperature to low temperature and high humidity to low humidity.



Corrosion Free: Outdoor Wall Cladding is absolutely corrosion free unlike other exterior cladding products.



Mechanical Properties: Outdoor Wall Cladding is highly impact resistant. Flexural strength, abrasion resistance, termite resistance, climatic shock resistance, modulus of elasticity is very good as we are using special modified phenolic resin.



UV Resistance: In order to avoid discoloring of the Outdoor Wall Cladding when exposed to sunlight for extended periods, a special UV protection treatment is done.



Fire Resistance: Outdoor wall cladding is having a property of fire retardency, which does not allow spread and propagation of flame in case of fire accident.



Graffiti resistance: Outdoor Wall Cladding is graffiti resistant any writing marks and stains etc. can be easily cleaned with diluted solvents such as damp cloth or sponge and a mild soap or detergent or thinner etc.

Installation Techniques



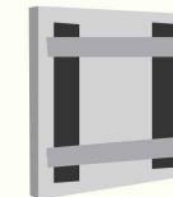
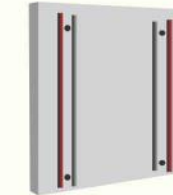
Adhesive



Riveted



Z-Clip



Finished wall



Rivet Method

Rivets are used in a panel mounting application to secure two or more components together. The rivet is easily installed with access only required from one side of the assembly. These systems require substructure (50x25mm rectangular aluminum channel), 10x30 size SS screw, POP rivets etc.

1) Creation of Aluminum structure: The aluminum substructure (standard specified) generally consists of vertical support profiles/hollow sections are mounted on the wall using rivets/angle brackets. Considering dimensional behavior of laminate at relative humidity as well as effect of climatic temperature on metal sub-construction, there is need to make fixed points & sliding points to fix the panels.

a) **Fixed points:** fixed points are used for uniform distribution & shrinkage movement. The diameter of the drill hole in Aica exterior clad must measure 5 to 6mm

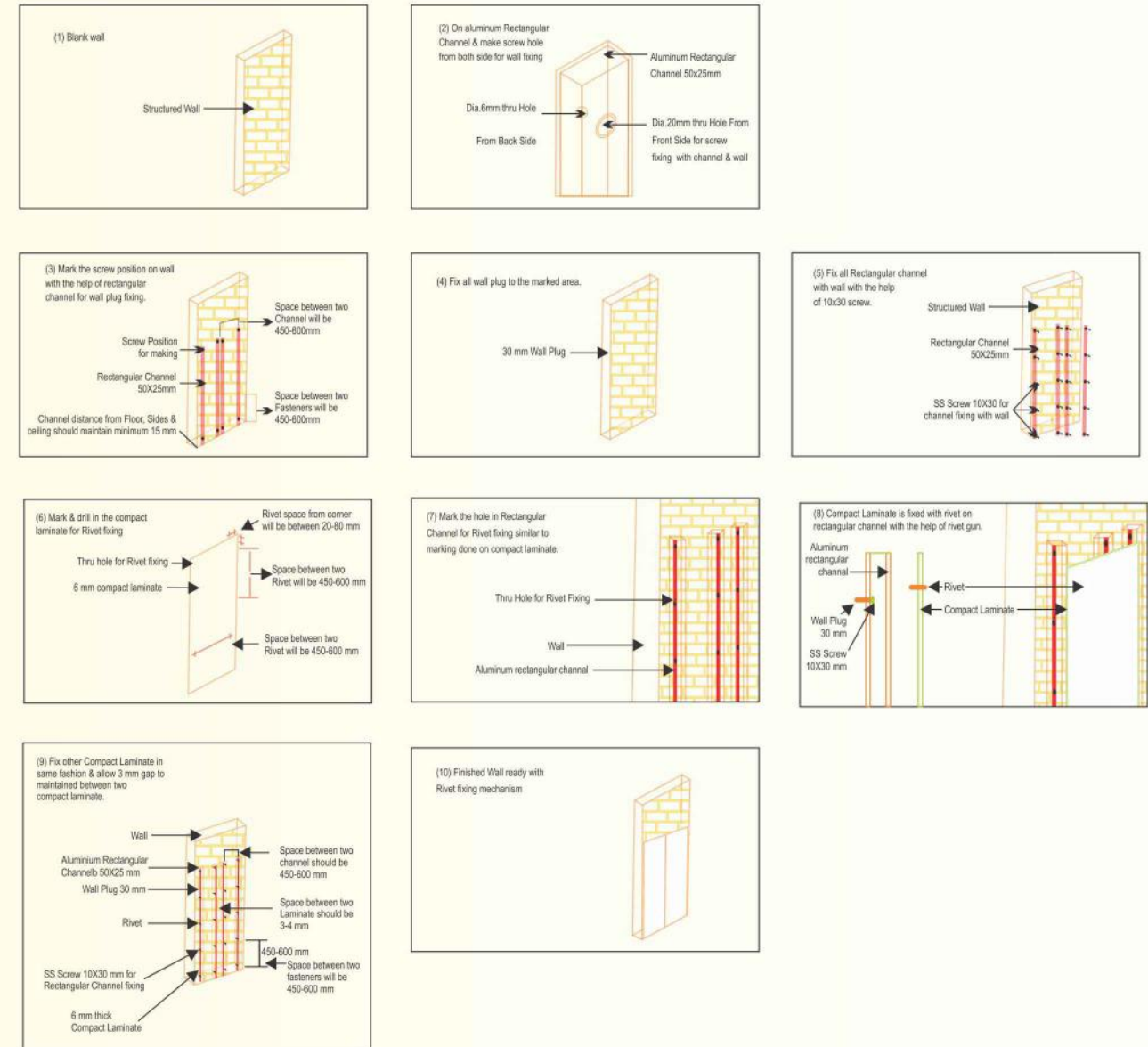
b) **Sliding point:** The diameter of drill hole in exterior cladding must be larger than the diameter of the fastening as per required expansion clearance. Thus is the shaft diameter of the fastening plus 2mm for every meter of cladding material from the fixed point. The head of the fastening must be big enough so that the hole in exterior clads is always covered

Procedure: Make 6mm thru hole from back side & 20mm from front side on aluminum rectangular channel for screw fixing with channel and wall. Then mark screw position on wall with the help of rectangular channel for wall plug fixing. While plug fixing, provide space approx. 450 to 600mm between two channels as well as between two fasteners. Keep minimum 15mm distance of channel alignment from floor, sides & ceiling of wall area. Fix all plugs (approx. 30mm) to the marked area. Fix all rectangular channels on the wall with the help of 10x30mm size screw.

2) Panel cladding: Mark the holes in the aluminum triangular substructure as well as in laminate panel for the rivet fixing. Make the drill in the compact laminate for Rivet fixing. While marking, keep rivet space in-between 20-80mm distance from corner as well as maintain minimum 450 to 600mm space in-between two Rivet. Compact laminate is then fixed with Rivet using Rivet gun on aluminum substructure. Fix the other panels in same fashion with maintaining a minimum gap of 3mm in-between two panels.

Important note: Using rivets system, the mouth piece drilling on the centre of the plate is opened with the same diameter as the rivet, other holes are opened 2-3 mm wider than the rivet diameters, thus enabling movement of clad panels in case of expansion. The placement of the holes should be minimum 20 mm & maximum 60mm distance from the plate edge and distance maximum 10 times of the material thickness

Wall Cladding - Rivet Type System



Adhesive method

Adhesive system is simple system for rear ventilated facades and visible roof under faces. These systems require 50x25mm rectangular aluminum channel, 10x30 size SS screw, PU sealant, VHB structural glazing tape, PU primer black etc. PU sealant & VHB tape should have good quality and resistance to UV radiation.

Process:

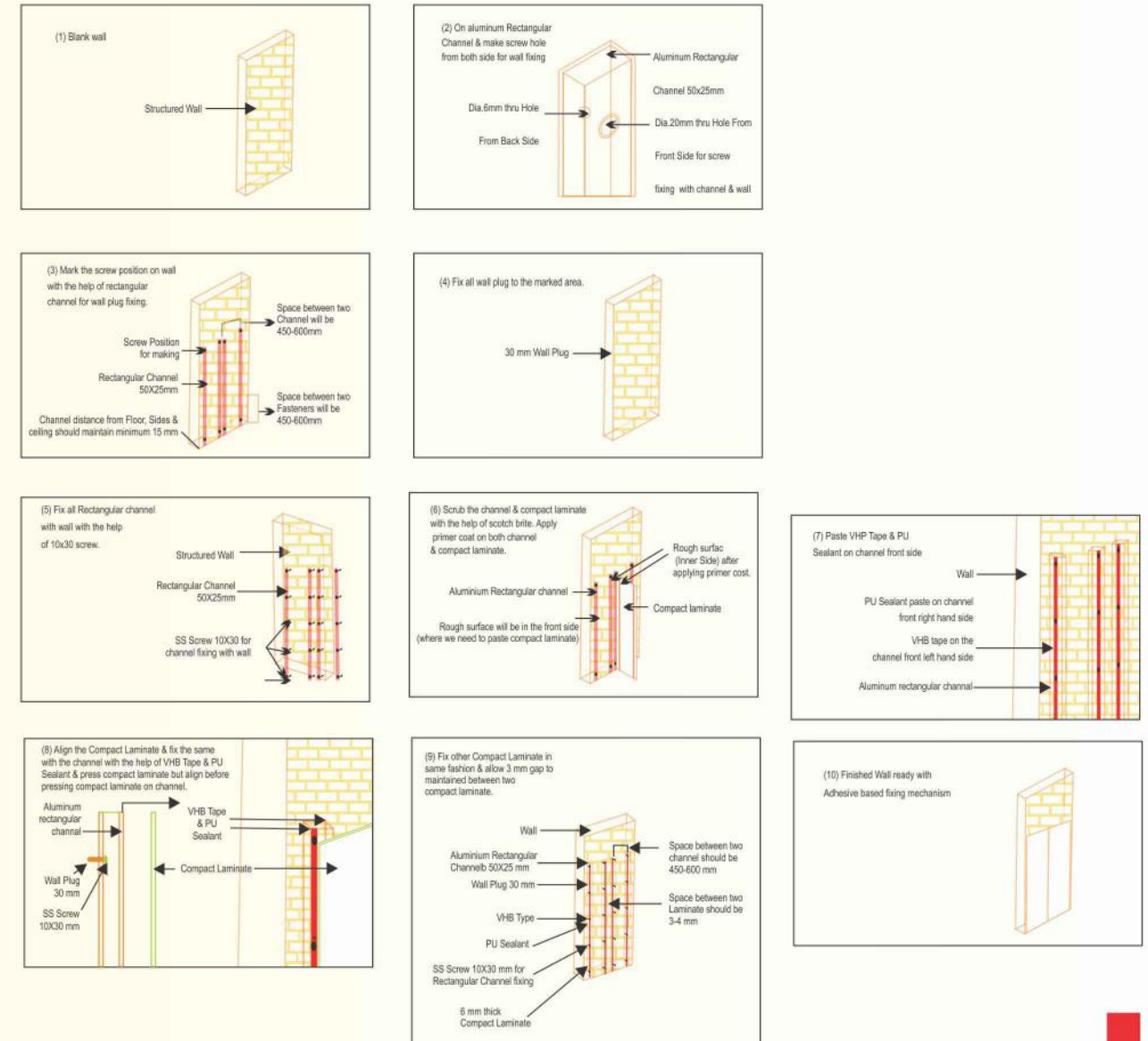
a) **Creation of aluminum structure:** Make 6mm thru hole from back side & 20mm from front side on aluminum rectangular channel for screw fixing with channel and wall. Then mark screw position on wall with the help of rectangular channel for wall plug fixing. While plug fixing, provide space approx. 450 to 600mm between two channels as well as between two fasteners. Keep minimum 15mm distance of channel alignment from floor, sides & ceiling of wall area. Fix all plugs (approx. 30mm) to the marked area. Fix all rectangular channels with wall with the help of 10x30mm size screw.

b) **Surface preparation and priming:** Abrade (rough) both the bonding area (front side of the channel & backside of laminate surface) using either cleaning pad/scrubber/fine emery paper. Clean the roughed surfaces and apply black primer (recommended) on these bonding areas and allow to dry to leave a tack free film. Kindly note, primer coating on laminate backside surface is to be done just before bonding but before sealant application on the frame to get better bonding results.

c) **VHB & Sealant application:** Paste VHB tape & PU sealant on front side of framed aluminum channel. Always apply VHB tape before sealant as there is skin formation on sealant bead if exposed long in air. Apply the sealant as a triangular bead of 6-8mm base and height approx. 10-12mm away from the tape.

d) **Panel Cladding:** Align the compact laminate & fix the same on channel with the help of VHB channel & PU sealant. Apply pressure with a rubber roller or by hand. Kindly ensure proper alignment of panel before pressurized for bonding. Enough pressure should be applied so that both surfaces fully contact the tape. Fix other compact laminate in same fashion & maintain a minimum gap of 3mm to 4mm between two compact laminate. Kindly note to achieve maximum bonding strength, minimum 24 hours is required for optimum curing after installation process.

Wall Cladding - Adhesive based System



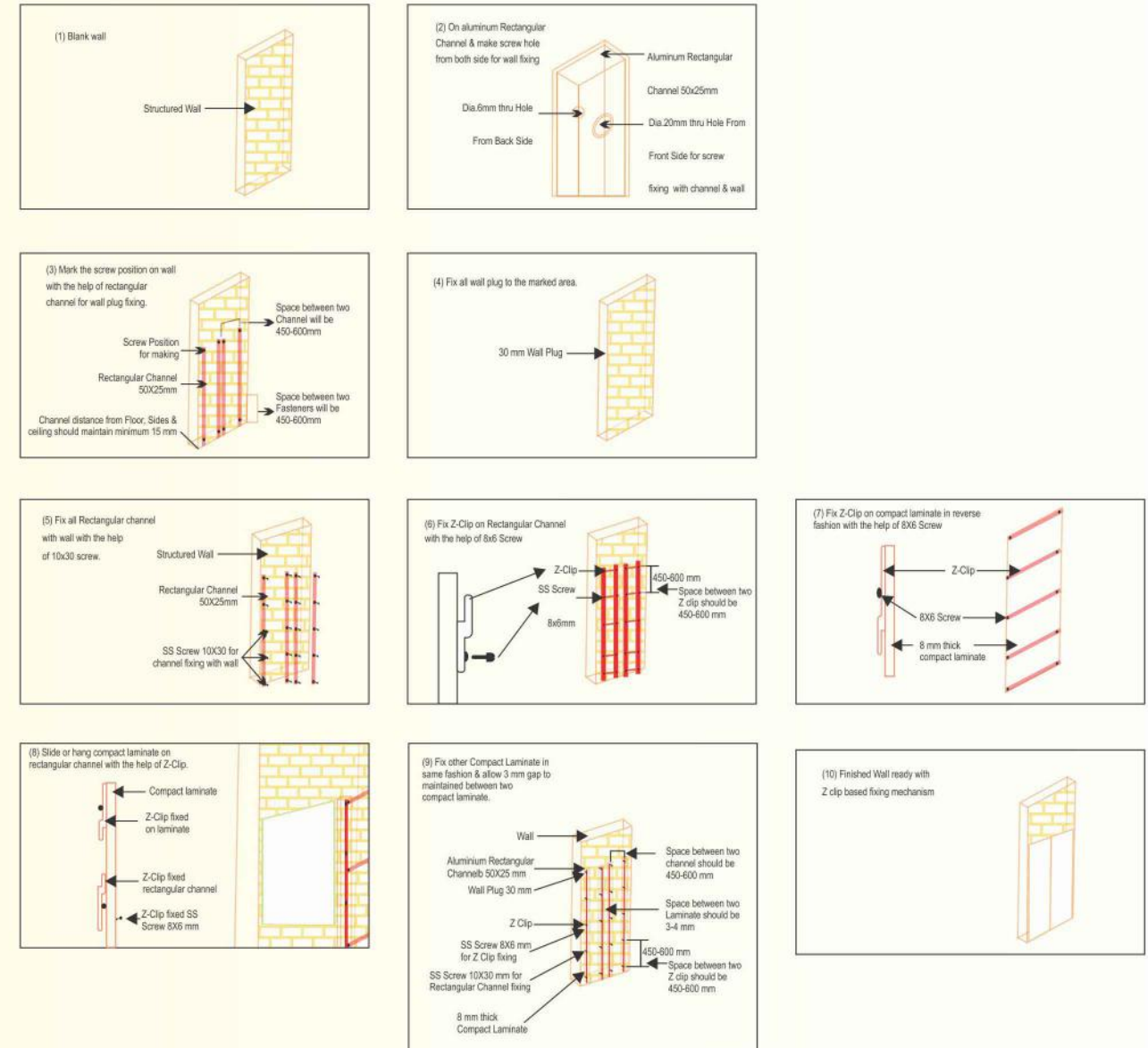
Z-Clip Method

A Z-clip system involves installing clads on the wall structure (lip-up) and strips/clips on the back of the panel (lip down). Once the panel is “dropped” into place, blocking at the top of the panel keeps the compact laminate from being removed. This system required 50x25mm rectangular aluminum channel, Z-clip, 10x30 size SS screw, 8x6mm SS Screw etc.

Creation of aluminum structure using Z-clip: Make 6mm thru hole from back side & 20mm from front side on aluminum rectangular channel for screw fixing with channel and wall. Then mark screw position on wall with the help of rectangular channel for wall plug fixing. While plug fixing, provide space approx. 450 to 600mm between two channels as well as between two fasteners. Keep minimum 15mm distance of channel alignment from floor, sides & ceiling of wall area. Fix all plug (approx. 30mm) to the marked area. Fix all rectangular channels with wall with the help of 10x30mm size screw. Fix Z-clip on rectangular channel with the help of 8x6mm SS screw. Keep minimum 450 to 600mm space in-between two Z-clip. Fix Z-clip on another side of exterior laminate in reverse fashion with the help of 8x6mm size SS screw. Then with the help of Z-clip, slide or hang laminate panel on framed rectangular channel. Fix all other laminate panels in same fashion with maintaining a minimum gap of 3mm in-between two compact laminate.

Important note in all above three procedures: An efficient air circulation must be secured between Aica exterior wall cladding and the surface or the coating of the building. The blank grouting spaces allowed for ventilation between the plates should not be filled with any material. An efficient air circulation must be provided from the ground level of the plate to the top edge. A minimum of 50 cm² space is required for every 1 meter width. If no air ventilation gap is reserved at the construction framework, deformation will occur on the exterior plates.

Wall Cladding - Concealed Mounting System (Z-Clip Type)





Material Handling and Storage

Storage and Handling: Use pallets during transportation of Outdoor wall Cladding panel .The surface should be free from debris, grit or foreign bodies to protect the decorative surface. Avoid pushing of panels over one another. Always cut the panels with the long edge parallel to the length of the panel.

Ambient Conditions: As far as possible try to maintain the same ambient conditions on both sides of the panel. Outdoor wall Cladding sheets should be stored horizontally on a flat board with sufficient weight on top to keep the sheets flat. Cover the cladding sheets with a material impervious to water.

Fabrication Conditions: Use proper tooling while working with Outdoor wall Cladding, use spindle moulder or router to achieve a superior finish or a profiled edge. Cutter marks cannot be avoided completely but can be minimized feeding the work at a constant controlled speed .Avoid pausing during profile cutting ,this can cause burn marks which are hard to remove. The edges of cladding should be chamfered to reduce the risk of edge impact damage.

Drilling should be done with a drill designed to use for plastic sheets with a point angle of 60*-80* instead of normal 120* for drilling metal. Breaking on the reverse side can be avoided by gradually reducing the feeding speed of the drilling head .Use a firm platform to reduce risk of break-out. While drilling parallel to the surface (Edge drilling) at least 3mm of material must be there on either side of the hole. For blind boring into the face, try to keep the depth of the hole in such a way that at least 1.5mm of material remains between the bottom of the hole and other side of the sheet. Spur drills should be used for clean flat-bottomed blind hole. Threaded holes can be produced using Taps.

Saw blade of less than 2mm thickness is not recommended. Saw blades used for cutting double sided composites can be used for cutting Outdoor Wall Cladding panels. In order to avoid Break-out on the underside of Cladding use following techniques:

Use a Plywood or Hardboard under the sheet

Use pre-scoring blade under the sheet

Alter the exit angle of the Saw

A speed of 0.03mm-0.05mm per Saw tooth is recommended for cutting double sided sheet.

Care and Maintenance: To clean the surface, use a damp cloth or sponge and a mild soap or detergent. The use of cleaners containing abrasives, acids or alkalis may damage the decorative surface. Being anticorrosive and antibacterial in nature of cladding, there is no special maintenance apart from cleaning is required.

Warranty: The Company provides the warranty to the consumer/purchaser for Ten years(* to retain the laminate properties as per requirement of EN438-6:2005 standard specified for exterior grade) after date of purchase that, under normal use and service, Outdoor Laminate Sheets are free from manufacturing defects and confirm to specifications. This Warranty is not transferable and applies only to a Outdoor Laminate sheet and is extended only to, and may be enforced only by, the consumer/purchaser. Proof for date of purchase is required to avail warranty. This warranty shall not apply to damage arising from improper fabrication or installation, improper maintenance or repair, accidents, abuse or misuse. Slight homogeneous variation in color may take place in course of time. Company warrants that its products are of high quality standards. Nevertheless, in case of any product complaints the company's liability will be limited to the cost of its products only. In no event shall its company or its dealers/stockists be liable for any other loss or damage arising out of its products.

Actual Sample

