



AN CƯỜNG®
Wood - Working Materials



MATERIALS FOR SHIPBUILDING



NỘI DUNG

1. Giới thiệu chung
2. Tấm chống cháy Fipro Vermiculite
3. Tấm Waterproof Plywood
4. Tấm IMO Laminate
5. Dịch vụ gia công
6. Ứng dụng thực tế
7. Khách hàng & dự án
8. Chứng nhận chất lượng
9. Trang thiết bị & Công nghệ

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GIỚI THIỆU AN CƯỜNG
Introduction



BINH DUONG FACTORY

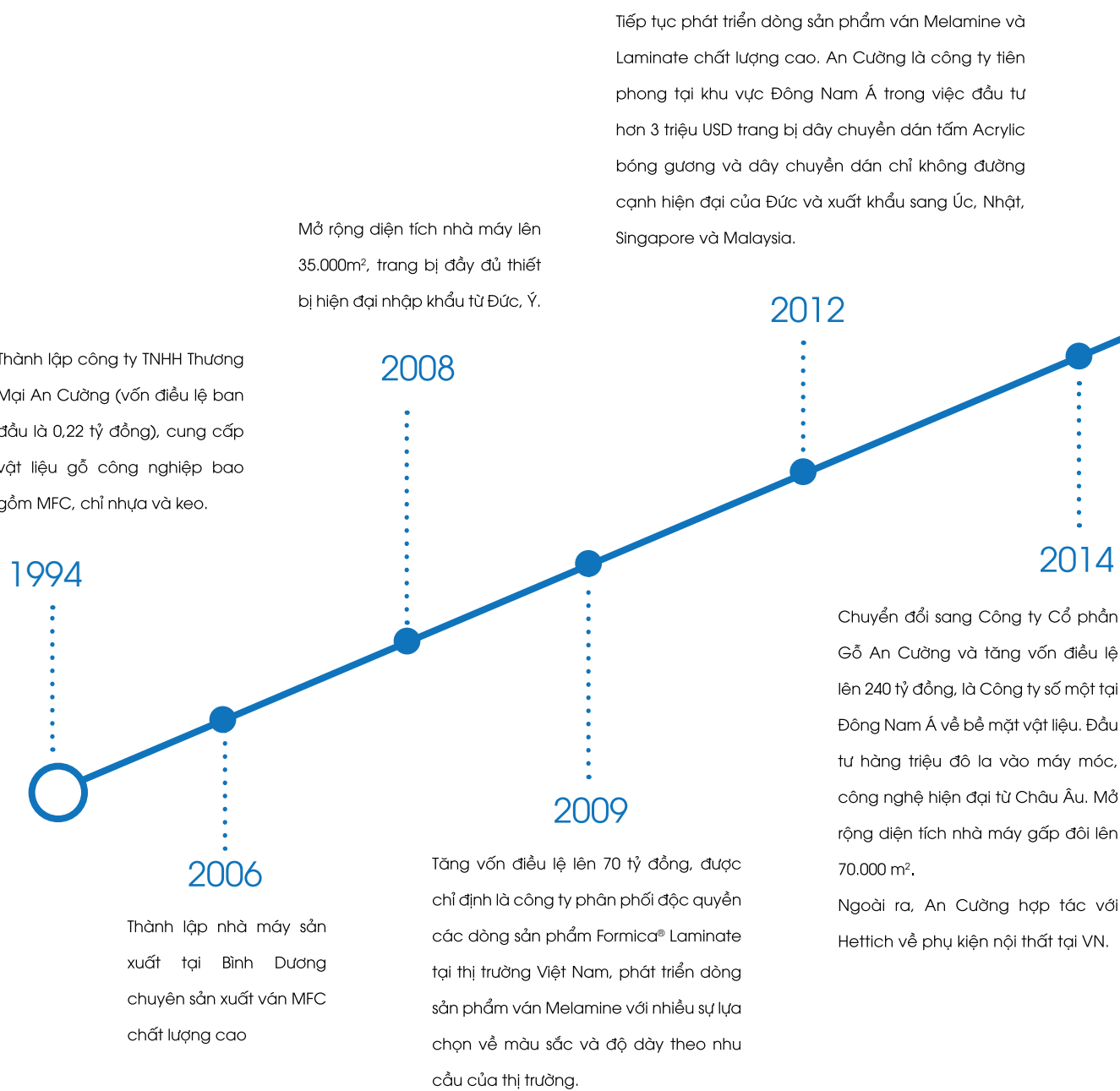
Công ty Cổ phần Gỗ An Cường là nhà sản xuất và cung cấp nguyên vật liệu trang trí nội thất và vật liệu décor hàng đầu tại Việt Nam và Đông Nam Á. Hiện nay, An Cường đã có hơn 3.600 nhân viên, 23 showroom trên toàn quốc và nhà máy sản xuất tại Bình Dương với diện tích lên đến trên 240.000 m2 cùng với hệ thống đại lý trên khắp thế giới như Campuchia, Malaysia, Nhật Bản, Canada, Mỹ, Úc... Từ 2017, An Cường kết hợp cùng các chuyên gia từ Đức, Singapore, Nhật Bản, đầu tư hệ thống máy móc hiện đại và cung cấp nguyên vật liệu nội thất cho cả ngành đóng tàu. Sản phẩm chúng tôi đang cung cấp gồm có tấm chống cháy Fipro Vermiculite phủ Laminate đạt tiêu chuẩn IMO của quốc tế sử dụng cho vách, tường, trần...tàu, và tấm Plywood chống nước phủ Laminate thích hợp làm nội thất tàu biển.

An Cuong Wood-Working Joint Stock Company is a leading manufacturer/supplier for interior and décor materials in Vietnam as well as South East Asia market. We are currently distributing a wide range of products for various reputable brands in the United State, Germany, Italy, Spain and Australia. An Cuong product includes décor panel, decorative material and several types of wood-based panel, which are widely used in interior decoration for house, apartment, school, supermarket, office, etc. Currently, An Cuong has more than 3.600 employees, 23 nationwide showrooms, a production plant in Binh Duong with the factory area up to 240.000 m2. An Cuong also associated with a worldwide agency network including Cambodia, Malaysia, Japan, Canada, USA, Australia, etc. Since 2017, An Cuong has expanded the cooperation with many experts from Germany, Singapore, Japan. The process allowed us to invest in modern machinery for shipbuilding material industry. Our product including IMO laminated panels with Fipro Vermiculite fire retardant panels for walls, bulkhead, ceilings, and waterproof laminate plywood panels for interior.

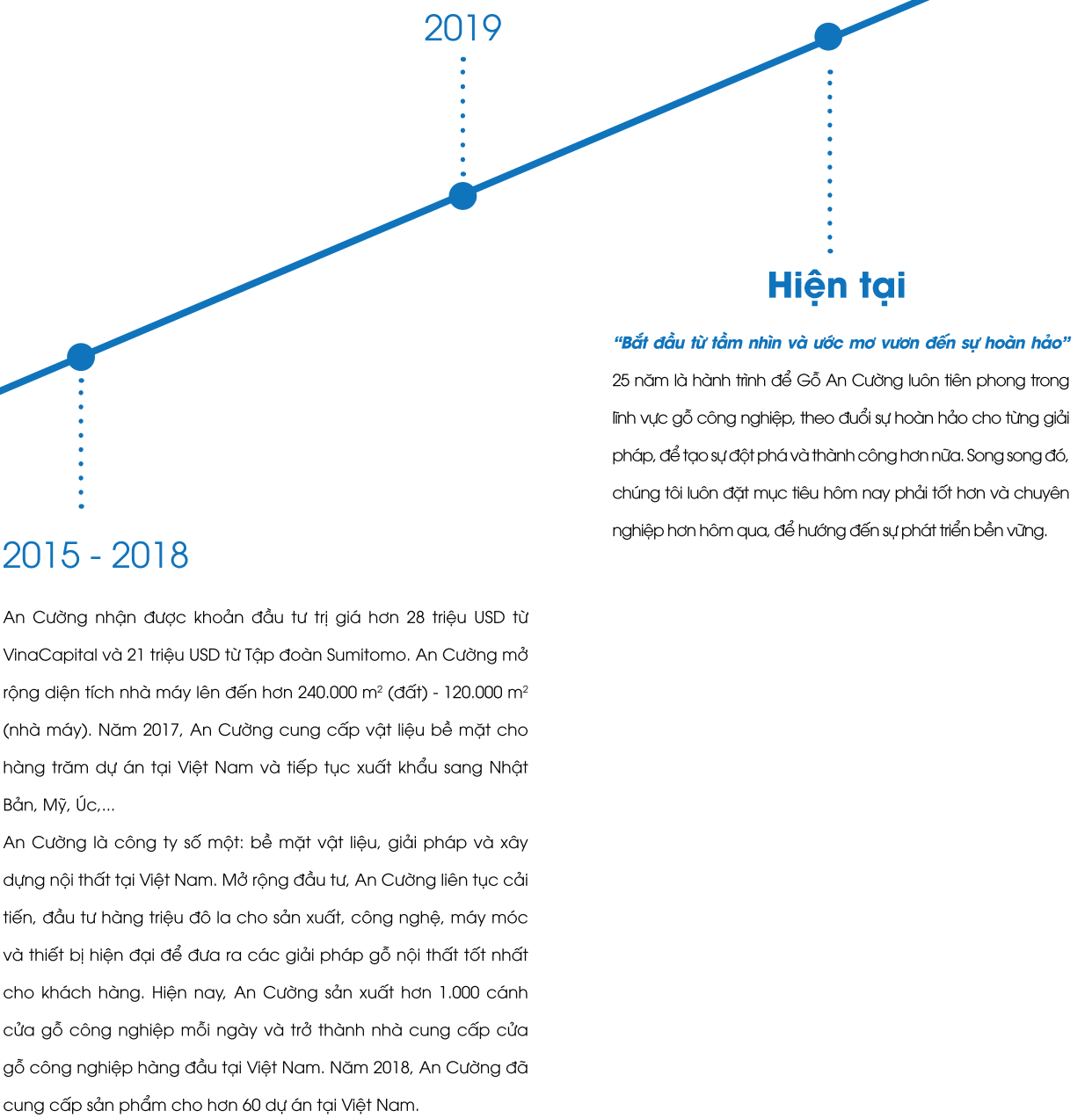
CHẶNG ĐƯỜNG HÌNH THÀNH VÀ PHÁT TRIỂN

Từ khi thành lập năm 1994 đến nay, những tăng trưởng liên tục về vốn và quy mô hoạt động đã giúp An Cường vươn lên trở thành một trong những nhà cung cấp vật liệu nội thất và vật liệu decor hàng đầu Việt Nam và khu vực.

Với hơn 25 năm hình thành và phát triển, An Cường đã đạt vị thế dẫn đầu trong ngành, chiếm lĩnh thị phần và được sự tín nhiệm từ phía các chủ đầu tư dự án, các kiến trúc sư, các doanh nghiệp kinh doanh mặt hàng nội thất và người tiêu dùng.



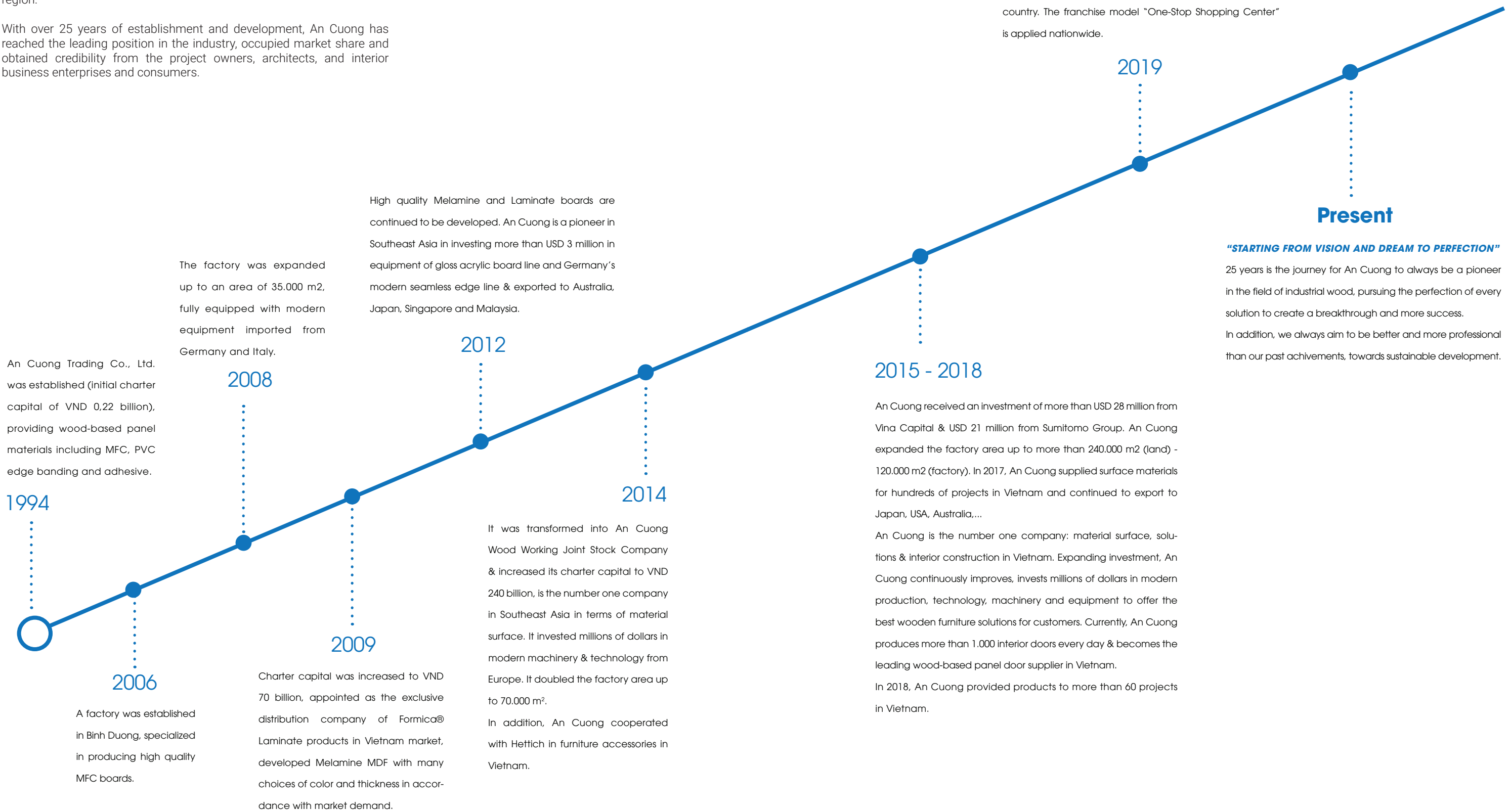
An Cường vận hành thành công phần mềm quản lý SAP-ERP, phần mềm thiết kế thông minh Cabinet Pro. Phần mềm có thể thiết kế một căn hộ 2 phòng ngủ chỉ trong vài giờ. An Cường có thể sản xuất từ 50 đến 100 bộ mỗi ngày. Ngoài ra, An Cường đã khai trương showroom "One-Stop Shopping Center" lớn nhất tại Đông Nam Á, và triển khai hơn 10 showroom mới trên toàn quốc. Áp dụng mô hình nhượng quyền "One-Stop Shopping Center" trên toàn quốc.



HISTORY OF ESTABLISHMENT & DEVELOPMENT

Since its establishment in 1994 up to now, continuous growth in capital and operating scale has helped An Cuong become one of the leading suppliers of interior materials and decor materials in Vietnam and the region.

With over 25 years of establishment and development, An Cuong has reached the leading position in the industry, occupied market share and obtained credibility from the project owners, architects, and interior business enterprises and consumers.



THÔNG điệp CHỦ TỊCH HỘI ĐỒNG QUẢN TRỊ
Message from chairman

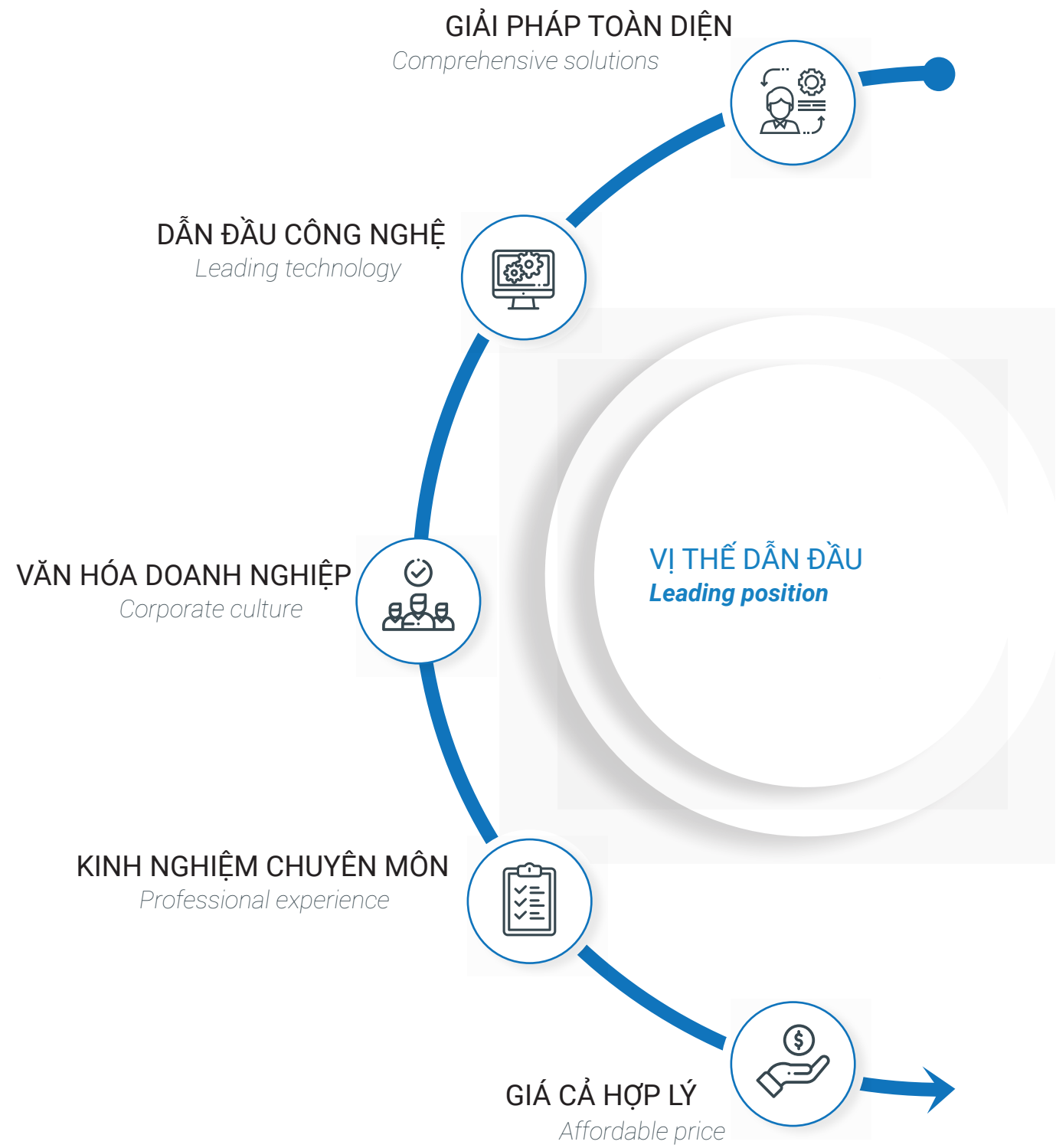


Gỗ An Cường đã trở thành một tập đoàn hùng mạnh với Công ty mẹ và các Công ty thành viên là những thương hiệu lớn và uy tín trên thị trường như Gỗ An Cường, Malloca, AConcept, Laminate Kingdom, Imundex. An Cường khẳng định vị thế là Công ty số 1 tại Việt Nam và khu vực Đông Nam Á về vật liệu, giải pháp và nội thất làm từ gỗ công nghiệp.

An Cuong Wood-Working has become a successful corporation with its reputation in the market. Along with the parent company, the member companies are also prestige brand such as An Cuong Wood, Malloca, AConcept, Laminate Kingdom, Imundex. Without doubt, An Cuong affirmed its position as the No.1 company in Vietnam and South East Asia regarding material, housing solution and industrial wood furniture.

Mr. Le Duc Nghia

LỢI THẾ CẠNH TRANH
Competitive advantages



TẤM CHỐNG CHÁY FIPRO VERMICULITE

Non-combustible fire protection Fipro

Tấm chống cháy Fipro Vermiculite được sản xuất từ khoáng chất tự nhiên có tên là Vermiculite, được sử dụng làm tấm ốp vách, tấm trần, và các tấm component nội thất chống cháy, bất kỳ đồ đạc nào trên tàu biển hoặc ngoài khơi.

Tấm Fipro Vermiculite đa dạng về kích thước và tỷ trọng, từ 800kg/m³ đến loại 650kg/m³, loại tỷ trọng nhẹ 500kg/m³ (Fipro light 500).

Tấm Fipro Vermiculite hoàn toàn không chứa amiang, sợi silicat, các thành phần xi măng, thạch cao, các loại sợi khoáng hoặc các chất độc hại khác, không gây nguy hiểm cho sức khỏe con người trong quá trình lắp đặt, sử dụng.

Tấm Fipro Vermiculite tuân thủ các giới hạn cho phép về phát sinh bụi khi xử lý, không có khói hoặc khói độc được thoát ra trong trường hợp hỏa hoạn.

Chất thải có nguồn gốc từ các tấm có thể được xử lý như chất thải xây dựng thông thường.

Tấm Fipro Vermiculite đáp ứng các yêu cầu quốc tế khắt khe về các quy định an toàn và phòng cháy chữa cháy trên tàu và trên các giàn khoan ngoài khơi: chứng chỉ SOLAS, IMO và FTP CODE được chứng nhận bởi ISCG và MED.



Fipro Vermiculite fire protection panels are based on natural mineral called vermiculite.

Fipro Vermiculite panels are various in dimensions and density: 800kg/m³, 650kg/m³, 500kg/m³ (Fipro light 500).

Fipro Vermiculite board are utilized for visible application with finished surfaces such as: interior walls, ceilings, furniture... ect and also use as fire resistance component for furnitures, interior decors onboard and offshore.

Fipro Vermiculite boards do not contain of Abetos, Silicate fibers, cement, gypsum components or other toxic materials. Therefore they are safe for human health during construction and processing. Due to the inorganic binders in the panels, no smoke or toxic fumes are released in case of fire adhere to permissible to limits dust generation when processing.

Waste from panels can be disposal as normal construction waste.

Fipro Vermiculite panels meet strictly requirement of safety and fire protection on board and offshore: Certification from SOLAS, IMO, and FTP code certified by ISCG and MED.

PLYWOOD CHỐNG NƯỚC
Waterproof Plywood

An Cường hiện đang cung cấp mặt hàng tấm plywood chống nước tiêu chuẩn E1 nhập khẩu từ Tây Ban Nha.

Với tỉ trọng dưới 500kg/m³ và sử dụng keo dành cho ngoại thất, tấm plywood nhẹ và có độ chịu nước cực cao, phù hợp để làm nội thất trên tàu.

An Cuong supplies waterproof plywood with E1 standard imported from Spain.

Our waterproof plywood is lightweight with the density of less than 500kg/m³ and using exterior glue. Also, our plywood is extremely high water resistance which is suitable for onboard interiors.



TẤM IMO LAMINATE
IMO HPL

An Cường luôn có sẵn hơn 40 mẫu Laminate đạt tiêu chuẩn IMO (International Maritime Organization – Tổ chức hàng hải Quốc Tế) dùng cho hàng hải được nhập khẩu trực tiếp từ các thương hiệu nổi tiếng từ Đức và Mỹ.

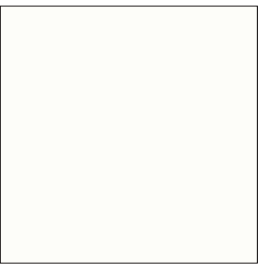
Có thể phủ trực tiếp tấm IMO Laminate lên lõi Fipro Vermiculite với keo chống cháy, hoặc phủ lên lõi Plywood chống nước bằng keo chống nước. Các mẫu IMO Laminate hiện có tồn kho sẵn tại An Cường

An Cuong has more than 40 laminate colors with IMO Standards (International Maritime Organization) available in stock for marine use, which are imported from famous brands from Germany and USA.

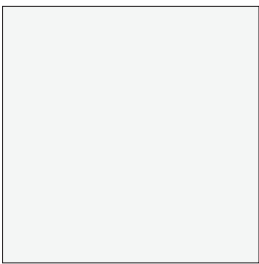
IMO HPL can be directly laminated onto Fipro Vermiculite panel with fire retardant glue or waterproof plywood board with water resistant glue.



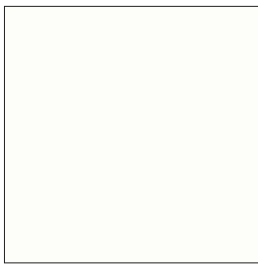
IMO LAMINATE



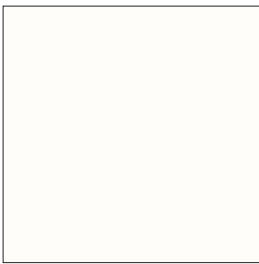
F1040 UN



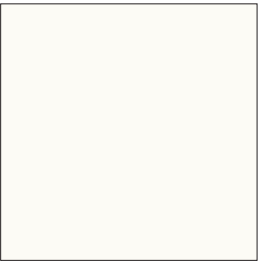
LK 8908 G



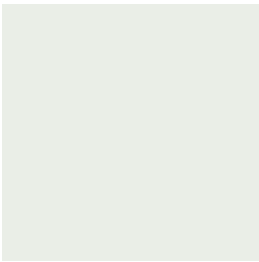
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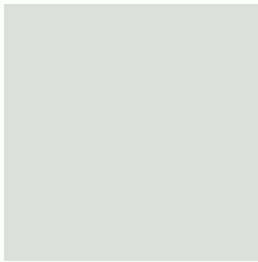
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LK 8914 G



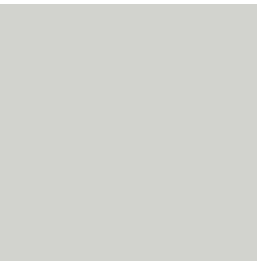
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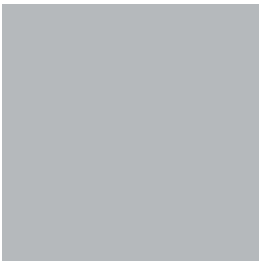
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LK 8921 G



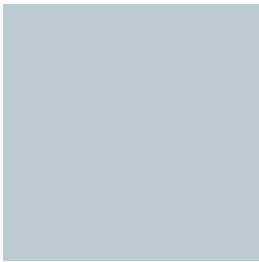
F7927 UN



F1994 UN



F7928 UN



LK 8003 G



LK 8006 G



LK 8004 G



LK 8005 G



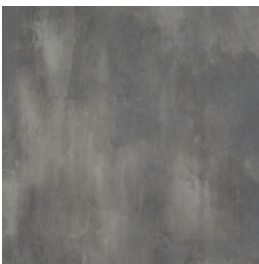
LK 8121 G



LK 8120 G



F6610 UN



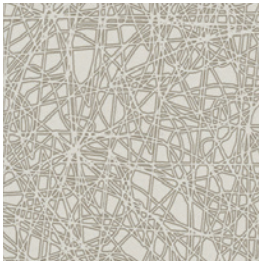
LK 8119 X



LK 8118 G



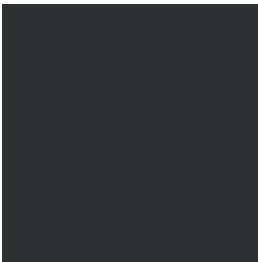
LK 8011 X



F5272 UN



LK 8111 G



LK 8919 G



LK 8101 G



F5371 UN



F5371 NT



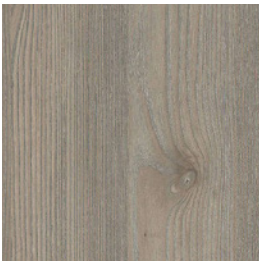
LK 8903 G



LK 8923 G



LK 8918 G



LK 8922 G



IMO LAMINATE



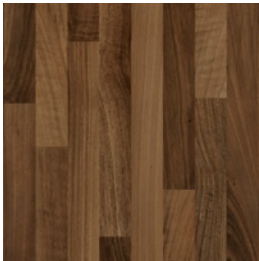
LK 8103 G



LK 8105 G



LK 8900 G



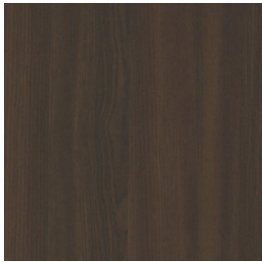
LK 8106 G



LK 8116 G



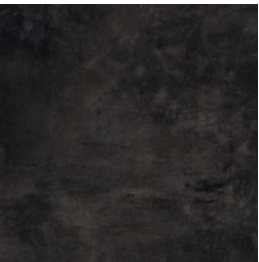
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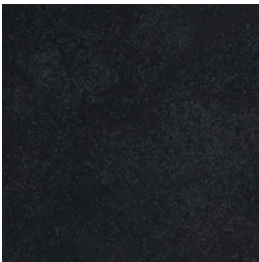
LK 8917 G



LK 8122 G



LK 8117 G



LK 8123 G



1 DÁN THẲNG
FLAT LAMINATION

An Cường cung cấp tấm Imo Lamine phủ trên Fipro Vermiculite bằng keo chống cháy và tấm Imo Lamine phủ trên ván plywood bằng keo chống nước.

An Cuong can directly laminated Imo Lamine onto Fipro Vermiculite panel with fire retardant glue or waterproof plywood board with water resistant glue.

2 DÁN PVC CẠNH
PVC EDGE TAPE

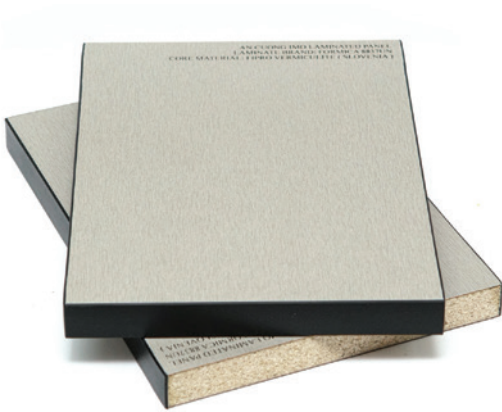
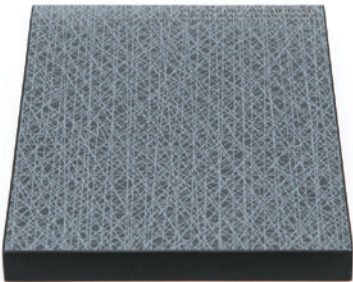
Tấm ván có thể được dán cạnh bằng chỉ PVC dễ dàng với máy dán cạnh thông thường để đảm bảo thẩm mỹ khi làm nội thất.

An Cường hiện có sẵn hầu hết chỉ dán cạnh màu tương đồng hoặc có thể cung cấp riêng chỉ đồng màu theo yêu cầu của từng dự án.

PVC edge tape could be pressed on boards by edge banding machine effortlessly, which ensure the aesthetic of the interior.

An Cuong stock is available almost exclusively with similar color/matching edge tape. An Cuong also supplies matching edge tape for different project's requirement.

DỊCH VỤ GIA CÔNG
Service





3 CHẠY PROFILE GROOVING

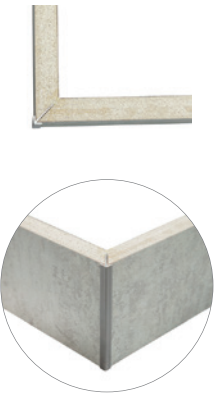
Đối với tấm chống cháy Fipro Vermiculite, An Cường có dịch vụ gia công chạy profile giữa cạnh tấm để lắp đặt bằng SP Line profile.
Bằng hệ thống máy móc và công nghệ hiện đại, đường grooving được xử lý với chiều sâu và độ rộng chính xác, giúp cho thành phẩm hoàn thiện có bề mặt phẳng phiu nhất. Phương án thi công lắp đặt này thường được sử dụng trong các dự án cao cấp.
Hình ảnh ứng dụng thực tế trên tàu GALICIA.



With modern technologies in most An Cuong machinery system, An Cuong provides grooving-service for Fipro Vermiculite board. The depth, width of grooves are cut accurately and smoothly by using SP line profile installation-this installation method is usually used in many luxury projects.
Actual images of GALICIA shipboat.

4 CHẠY CẠNH VÁT PERFORM 45-DEGREE BEVELED CUT

Ứng dụng chạy cạnh vát cho các khu vực góc, kết hợp với phụ kiện Arrow Profile.
Hình ảnh ứng dụng thực tế trên tàu GALICIA



Apply for corner area with acute angle by using Arrow Profile fitting.
Actual images of GALICIA shipboat.



5 CHẠY BIÊN DẠNG CNC PROFILE

Đội ngũ kỹ thuật của chúng tôi luôn nỗ lực đáp ứng tối đa những yêu cầu đặc biệt về thiết kế của khách hàng. Các chi tiết chạy biên dạng đặc biệt được ứng dụng làm các ô cửa sổ tròn và vuông hoặc các chi tiết trang trí trên tàu.

We always try our best to meet our client's particular need and requirement in their design. CNC Profile is applied in round, square window, decorative parts in ship. Actual application on ship.



6 CHẠY BIÊN DẠNG CONG PERFORM CURVED PROFILE

Phức tạp và đòi hỏi máy móc hiện đại, cũng như nhiều sự tỉ mỉ hơn nữa là các chi tiết chạy biên dạng cong. Từ tấm ván thẳng, qua các công đoạn thực hiện kỹ thuật cao, cho ra những chi tiết có biên dạng cong, được ứng dụng trang trí, ốp góc tường, ốp cột. Ứng dụng thực tế trên tàu GALICIA.

Curved profile
Performing curved profile on flat board is complicated, which required the modern technology. Curved profile is the solution for round corner, column, or any decorative area. Actual application on GALICIA shipboat.



DỊCH VỤ GIA CÔNG
Service



7 **NỐI MÀU LAMINATE TRÊN CÙNG 1 TẤM**
JOIN AND MATCH THE LAMINATE COLOR

An Cường sẵn sàng đáp ứng những nhu cầu đặc biệt nhất của khách hàng. Chúng tôi đã thực hiện nối màu laminate trên cùng 1 tấm, đảm bảo tấm ván không cong vênh và các đường mí nối đều sát mí, phẳng, mịn.



An Cuong always strives to provide special request from client. Different laminate colors are joined in a flat board with join lines are tight and smooth. Actual application on ship.



8 **UỐN CONG LAMINATE**
LAMINATE POST-FORMING

Chi tiết uốn cong laminate được ứng dụng đa dạng trong nội thất. Phổ biến nhất là các mặt top bàn, top bếp, cánh cửa...

The most common use of laminate post-forming is for wrapping the edge of tabletop, countertop, door, etc.



ỨNG DỤNG
Application



IMO LAMINATE TRÊN PLYWOOD

Imo Laminate trên plywood được ứng dụng làm nội thất đa dạng trên tàu: mặt bàn, tủ áo, hộc kéo, tủ bếp, ...



Imo HPL laminated on plywood
Application including table top, wardrobe, drawer, kitchen cabinets, etc.

ỨNG DỤNG
Application

Sử dụng IMO HPL phủ trên plywood để có những ứng dụng đa dạng cho nội thất trên tàu biển đẹp hiện đại, sang trọng.

IMO HPL laminated on Plywood can be able to apply to the ship interior, which creates the modern, luxurious and aesthetic space.



Tấm Imo Lamine trên Fipro Vermiculite được ứng dụng làm trần, vách, cột, hành lang...
Ứng dụng thực tế trên tàu GALICIA

Application including wall, ceiling, column, lobby, etc.
Being applied in GALICIA shipboat.

ỨNG DỤNG

Application

Tấm IMO HPL phủ trên lõi Fipro được ứng dụng làm trần, ốp vách tường. Với kỹ thuật và máy móc hiện đại, các chi tiết được cắt CNC tạo hình khung cửa sổ vuông hoặc tròn thẩm mỹ.

IMO HPL laminated on Fipro board is used to make ceiling and siding board. Aesthetic round and square window with CNC patterns are cut modern technique and machine.



Ứng dụng thực tế trên tàu GALICIA.
Actual images of GALICIA shipboat.



Ứng dụng chạy cạnh vát 45 độ để làm vách trên tàu GALICIA
Apply for 45-degree cutting edge in digital ship's siding board GALICIA shipboat.



ỨNG DỤNG
Application

ỨNG DỤNG TẮM IMO LAMINATE TRÊN FIPRO VERMICULITE
IMO HPL LAMINATED ON FIPRO VERMICULITE BOARD APPLICATION

Tấm IMO Laminate trên Fipro Vermiculite dùng để ốp vách tường, uốn cong để ốp cột, và các khung cửa sổ.
Ứng dụng thực tế trên tàu STENA ESTRID

Flat and curved IMO laminated on Fipro Vermiculite board are being used in wall board, facing round pillars, window frames, etc.
Being applied in STENA ESTRID shipboat.



ỨNG DỤNG
Application

ỨNG DỤNG TẤM IMO LAMINATE TRÊN FIPRO VERMICULITE
IMO HPL LAMINATED ON FIPRO VERMICULITE BOARD APPLICATION

Ứng dụng chạy profile (grooving) và phụ kiện cho khu vực hành lang.
Ứng dụng thực tế trên tàu GALICIA.

Apply for grooving and lobby's accessories.
Being applied in GALICIA shipboat.



Hình ứng dụng ốp trần, nội thất trên tàu GALICIA
Photo of ceiling and interior in actual digital shipboat. Being applied in GALICIA shipboat.

ỨNG DỤNG
Application

Ứng dụng thực tế trên tàu GALICIA.
Being applied in GALICIA shipboat.



ỨNG DỤNG
Application

ỨNG DỤNG TẤM IMO LAMINATE TRÊN FIPRO VERMICULITE
IMO HPL LAMINATED ON FIPRO VERMICULITE BOARD APPLICATION



Ứng dụng thực tế trên tàu GALICIA.
Being applied in GALICIA shipboat.

ĐỐI TÁC &
KHÁCH HÀNG
Our customers and projects



An Cường hiện là đơn vị đầu tiên tại Việt Nam có thể cung cấp vật liệu tấm chống cháy, chịu nước cho nội thất tàu biển đạt tiêu chuẩn Quốc tế. Chúng tôi đã và đang cung cấp vật liệu cho nhiều dự án của các Công ty đóng tàu có tiếng trong và ngoài nước.

An Cuong is proud of being a leading company that provides fire protection board and water proof materials for shipbuilding interior with international quality standard. We are currently supplied materials for shipbuilding project not only in Vietnam but also many other countries.



CHỨNG NHẬN CHẤT LƯỢNG
Certificates

Fire Protection

TECHNICAL DATA SHEET
FIPRO® Fire protection boards

PRODUCT DESCRIPTION:

FIPRO® Light 500 is a non-combustible Vermiculite board with smooth surface and in large sizes. It is particularly easy and clean for processing. The surface of FIPRO® Light 500 can be covered with many finishing materials.

FIPRO® Light 500

Technical specification *

Reaction to fire (IMO Res. MSC 307(88) FTP (2010))	Non-combustible
Density	500 kg/m³ (+/- 10%)
Standard dimension or on request	2440 x 1220 mm 2500 x 1250 mm, 2800 x 1250 mm 3100 x 1250 mm
Tolerance in dimension	+/- 1.0 mm
Standard thickness or on request	10, 12, 16, 19, 22, 25, 30, 35, 40, 50 mm
Tolerance in thickness	+/- 0.3 mm
Bending strength (EN 12809 Var.B)	1.5 MPa
Tensile strength (EN 319)	0.2 MPa
Residual moisture (ex works) (EN 322)	2 - 7 %

* The shown values are always dependent on the particular density and provide minimum or average values of the production. Safety data sheet and manual are available on request. All technical data are due to changes and supplements.

Packing and weight list

Thickness mm	Weight kg/m²	Boards/ pallet
10	5.0	95
12	6.0	79
16	8.0	60
19	9.5	50
22	11.0	43
25	12,5	38
30	15.0	32
35	17,5	27
40	20.0	24
50	25.0	19

Application areas

FIPRO® Light 500 non-combustible fire protection boards are used for C class constructions: bulkheads, ceilings, linings, doors and furniture for ships and offshore platforms.

Mineralka d.o.o.
SI-1380 Cerknica

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Visit us
www.fipro.si

The content of this catalogue and information about it has been provided in good faith, under the exclusion of liability and makes no claim to completeness. The content is provided as assistance to the Mineralka product users and resellers, who are fully responsible for their actions. Stipulations in the official document only are legally binding for the user.

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TECHNICAL DATA SHEET – FIPRO® Light 500

Fire Protection

TECHNICAL DATA SHEET
FIPRO® Fire protection boards

PRODUCT DESCRIPTION:

FIPRO® MS is a non-combustible Vermiculite board with smooth surface and in large sizes. It is particularly easy and clean for processing. The surface of FIPRO® MS can be covered with many finishing materials.

FIPRO® MS

Technical specification *

Reaction to fire (IMO Res. MSC 307(88) FTP (2010))	Non-combustible
Density	650 kg/m³ (+/- 10%)
Standard dimension or on request	2440 x 1220 mm 2500 x 1250 mm, 2800 x 1250 mm 3100 x 1250 mm
Tolerance in dimension	+/- 1.0 mm
Standard thickness or on request	8, 10, 12, 16, 19, 22, 25, 30, 32, 40, 50 mm
Tolerance in thickness	+ 0.3/ - 0.2 mm
Bending strength (EN 12809 Var.B)	3.5 MPa
Screw extraction surface and edge** (EN 320)	200 N
Tensile strength (EN 319)	0.3 MPa
Delamination strength (EN 311)	0.8 MPa
Residual moisture (ex works) (EN 322)	2 - 7 %

* The shown values are always dependent on the particular density and provide minimum or average values of the production. Safety data sheet and manual are available on request. All technical data are due to changes and supplements.

** From thickness 15 mm on.

Packing and weight list

Thickness mm	Weight kg/m²	Boards/ pallet	
		2440x1250 2500x1250	2800x1250 3100x1250
8	5.6	100	86
10	6.9	80	69
12	8,3	67	58
16	10.7	53	46
19	12.7	49	42
22	14.3	42	36

Thickness mm	Weight kg/m²	Boards/ pallet	
		2440x1250 2500x1250	2800x1250 3100x1250
25	16.3	37	32
30	19.5	31	26
32	20.8	29	24
40	26.0	23	20
50	32.5	18	16

Application areas

FIPRO® MS non-combustible fire protection boards are used for A, B and C class constructions: bulkheads, ceilings, linings, floating floors, doors and furniture for ships and offshore platforms.

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SI-1380 Cerknica

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TECHNICAL DATA SHEET – FIPRO® MS

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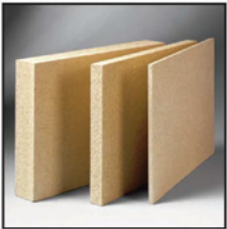
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CHỨNG NHẬN CHẤT LƯỢNG
Certificates

Fire Protection



TECHNICAL DATA SHEET
FIPRO® Fire protection boards



PRODUCT DESCRIPTION:

FIPRO® is a non-combustible Vermiculite board with smooth surface and in large sizes. It is particularly easy and clean for processing. The surface of FIPRO® can be covered with many finishing materials.

FIPRO®

Technical specification *

Reaction to fire (IMO Res. MSC 307(88) FTP (2010))	Non-combustible
Density	800 kg/m³ (+/- 10%)
Standard dimension or on request	2440 x 1220 mm 2500 x 1250 mm, 2800 x 1250 mm 3100 x 1250 mm
Tolerance in dimension	+/- 1.0 mm
Standard thickness or on request	8, 10, 12, 16, 19, 22, 25, 30, 32, 40, 50 mm
Tolerance in thickness	+ 0.3/ - 0.2 mm
Bending strength (EN 12809 Var.B)	4.0 MPa
Screw extraction surface and edge** (EN 320)	250 N
Tensile strength (EN 319)	0.3 MPa
Delamination strength (EN 311)	0.8 MPa
Residual moisture (ex works) (EN 322)	2 - 7 %

Packing and weight list

Thickness mm	Weight kg/m²	Boards/ pallet	
		2440x1250 2500x1250	2800x1250 3100x1250
8	6.8	100	86
10	8.3	80	69
12	9.8	67	58
16	12.6	53	46
19	15.0	49	42
22	17,2	42	36

Thickness mm	Weight kg/m²	Boards/ pallet	
		2440x1250 2500x1250	2800x1250 3100x1250
25	19.5	37	32
30	23.1	31	26
32	24.6	29	24
40	29.6	23	20
50	37.0	18	16

Application areas

FIPRO® non-combustible fire protection boards are used for A, B and C class constructions: bulkheads, ceilings, linings, floating floors, doors and furniture for ships and offshore platforms.

MINERALKA

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TECHNICAL DATA SHEET - FIPRO®

C 02/2020

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Marine & Offshore

Certificate number: 03760/E0 MED

File number: ACI1000/153/010 & ACI1000/423/002

Item number: MED/3.11b

USCG Module B number: 164.108 / EC2690

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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Notified Body 2690 - MARINE EQUIPMENT DIRECTIVE 2014/90/EU

EC TYPE EXAMINATION CERTIFICATE

as per Module B of Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations and Commission Implementing Regulation (EU) 2020/1170 of 16 July 2020

This certificate is issued to:

MINERALKA d.o.o.

Cerknica - SLOVENIA

for the type of product

"B" CLASS DIVISIONS, BULKHEAD PANELS, FIRE INTEGRITY

B-15 Class Bulkhead FIPRO MS or THERMAX SN 650

Requirements:

SOLAS 74 convention as amended, Regulations II-2/9, II-2/3.4

IMO Res MSC.307(88) -(2010 FTP Code)-

IMO MSC/Circ.1120 and IMO MSC.1/Circ.1581


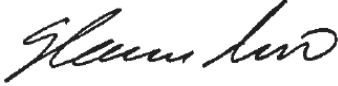
This certificate is issued on behalf of the French Maritime Authorities to attest that Bureau Veritas Marine & Offshore did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations.


This certificate will expire on: 08 Feb 2026

For Bureau Veritas Marine & Offshore Notified Body 2690,

At BV RIJEKA, on 08 Feb 2021,

Slaven Celic



This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark ) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex II of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. Bureau Veritas Marine & Offshore is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarp.com/veristarb/jsp/viewPublicPdfType.jsp?id=lpxuqtdnbk>

BV Mod. Ad.E 536 June 2017

This certificate consists of 3 page(s)

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Certificate number: 03760/E0 MED

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

B-15 Class Bulkhead FIPRO MS or THERMAX SN 650

Composed of 19 mm thick vermiculite panels "FIPRO MS" only or "THERMAX SN 650" only (with nominal density 650 kg/m³).

Junction between boards consists of:

- two steel Ω-profiles (30 x 10 x 0.5 mm), fixed together by self-tapping screws (Ø4.2 x 10 mm) with cover sections (7.6 x 9 x 0.5 mm), placed each 300 mm,
- or
- steel spline (25 x2 mm) placed in the groove on the long edges of boards,
- or
- 38 x 3.2 mm folded steel splines (0.8 mm thick) placed in the groove on the long edges of boards.

Fixing of the panel was made by:

- top profile: steel U-profile (23 x 40 x 1.5 mm) or equivalent construction,
- bottom and edge profiles: steel U-profile (23 x 20 x 1.5 mm) or equivalent construction.

"FIPRO MS" panels maximum width: 1250 mm
"THERMAX SN 650" panels maximum width: 1200 mm
Total thickness of panel: 19 mm

2. DOCUMENTS AND DRAWINGS :

As per Manufacturer's drawings:

- B-15 Class Bulkhead FIPRO MS: N° 3/2016 dated 14/10/2016
- B-15 Class Bulkhead THERMAX SN 650: N° 2/2015 dated 29/03/2015
- "Bulkhead FIPRO (16 mm)": N° 2/2019 dated 22/04/2019

3. TEST REPORTS :

3.1 - Test reports, as per IMO 2010 FTP Code Annex 1 Part 3, from ZAG, Slovenia:

- B-15 Class Bulkhead FIPRO MS: N° P1065/16-530-1 dated 22/02/2017
- B-15 Class Bulkhead THERMAX SN 650: N° P0384/15-530-2 dated 22/05/2015

3.2 - Alternative connection between panels (folded steel splines 38x3.2 mm):

- Test report N° 409/18-530-1 dated 24/07/2019, as per IMO 2010 FTP Code Annex 1 Part 3, from ZAG, Slovenia.
- Technical assessment N° 530/FK-DN 0409/18-1 dated 16/07/2019.

4. APPLICATION / LIMITATION:

4.1 - The following components shall comply with the requirements of MED 2014/90/EU, as amended, and be wheelmarked:

- the insulation materials "FIPRO MS" and "THERMAX SN 650",
- any added finish surface material(s).

4.2 - The fitting aboard to be the same as used for the test.

5. PRODUCTION SURVEY REQUIREMENTS:

This certificate alone does not allow the applicant to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module D Production Quality Assurance or module E Product Quality Assurance or module F Product Verification of Annex II of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.

6. MARKING OF PRODUCT:

6.1 - Reference is made to MED 2014/90/EU chapter 2.
In particular Article 10.3 specifies that the wheelmark shall be followed by the identification number of the Notified Body involved in the production control phase (module D, E or F) and by the year in which the mark is affixed (4 digits or last 2 digits).

6.2 - In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004 amended by Decision 1/2018 of 18 February 2019, the product(s) marked as per MED 2014/90/EU may be marked with the USCG conformity marking as authorized by the Notified Body undertaking surveillance module.

The electronic version is available at: <http://www.veristarpm.com/veristarnb/jsp/viewPublicPdfTypeec.jsp?id=lpxuqtdnbk>
BV Mod. Ad.E 536 June 2017

This certificate consists of 3 page(s)

Page 3 / 3
Certificate number: 03760/E0 MED

7. OTHERS:

7.1 - It is MINERALKA d.o.o.'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes EC Type Examination Certificate N° 03760/D4 MED issued on 25/09/2019 by the Society.

*** END OF CERTIFICATE ***

The electronic version is available at: <http://www.veristarpm.com/veristarnb/jsp/viewPublicPdfTypeec.jsp?id=lpxuqtdnbk>
BV Mod. Ad.E 536 June 2017

This certificate consists of 3 page(s)

CHỨNG NHẬN CHẤT LƯỢNG
Certificates

PRODUCT SPECIFICATION

efficiency
poplar

100% poplar plywood
Lightness that challenges the impossible

■ IVORY-WHITE COLOR

■ LIGHTWEIGHT & EASY-TO-MACHINE

■ STABILITY & DIMENSIONAL UNIFORMITY

■ SUSTAINABLE EUROPEAN PLANTATION WOOD

50

efficiency
poplar

100% poplar plywood
Lightness that challenges the impossible

Finishes available:

UV

HPL

MDO

PRM

XPS

CRK

CPL

Product description:

Lightweight panel composed entirely of European sustainable plantation poplar. Its white colour makes it ideal for painting or coating.
Maximum sustainability thanks to its poplar sourced from fast-growing plantations. This wood is characterised by its lightness, stability, surface quality and ease of machining; exceptional qualities that make for a tremendously versatile range.
Glue Type: Class 1 (interior) or Class 3 (exterior) according to the rule EN 636
Emission: Class E1 according to the rule EN 13986. CARB Phase 2 Low Formaldehyde Emission (on demand)
Quality faces: B/BB/C

Applications/Uses:

An infinity of applications due to its excellent mechanical properties and wide variety of formats available at a very reduced cost.

Formats

Dimensions mm	2500x1220, 2520x1850, 3100x1530, 3100x1850
Thickness mm	6 8 10 12 15 18 22 25 30 40
No. of plies	5 5 5 7 7 7/9 9 11 13 15

Formats may vary without notice. Please contact your local sales manager to check the availability in your region.

Technical features

	Values	Standard
Density (Kg/m³)	420-480	UNE EN 323
MOE - Modulus of elasticity (N/mm²)	3.500-4.800	UNE EN 310
Face Screw Holding (kgf)	135	UNE EN 320
Moisture content (%)	6-14	UNE EN 322

Wood is a natural material and as such is unique in appearance & so often has naturally occurring variations in colour, texture and grain pattern. The photographic reproductions used simply provide an example of a product's appearance & may not be representative of the full range of colour, texture and grain variations. The data provided in this product specification should be used solely as a guide & is of no contractual value. It is the responsibility of the acquirer to determine if the product is suitable for the required application, to ensure that both the place & form of use are appropriate & in accordance with the manufacturer's requirements & recommendations & is in line with current regulations.

CE

CE 2+

CARB Phase 2

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CHỨNG NHẬN CHẤT LƯỢNG
Certificates

DNV GL

Certificate No:
TAF000000T
Revision No:
1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Surface Material of Low Flame Spread

with type designation(s)
Formica Marine Sheet

Issued to
Shanghai Formica Decorative Material Co., Ltd
Shanghai, China

is found to comply with
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations
DNV GL rules for classification – Ships
DNV GL offshore standards

Application :
Approved for use as low flame spread surface material, not generating excessive quantities of smoke nor toxic products in fire.

This certificate is recognized by Transport Canada

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2019-06-06**

This Certificate is valid until **2024-06-05**.
DNV GL local station: **Shanghai**

Approval Engineer: **Helge Bjørnarå**

for DNV GL

Digitally Signed By: Schei-Nilsson, Mårten
Location: DNV GL Høvik, Norway

Mårten Schei-Nilsson
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Form code: TA 251

Revision: 2016-12

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Page 1 of 2

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Job Id: **262.1-009167-3**
Certificate No: **TAF000000T**
Revision No: **1**

Product description
"Formica Marine Sheet",
a decorative laminate, 0,7 mm ± 0,1 mm, consisting of a core of 3 layers of "Kraft" paper impregnated with phenolic resin and overlaid with one layer of "Deco paper" impregnated with melamine resin.

Application/Limitation
Approved for use as low flame spread material, not generating excessive quantities of neither smoke nor toxic products in fire.

Approved for use on non-combustible substrate.

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO 2010 FTP Code part 5.

Maximum gross calorific value shall be documented separately where applicable, ref. SOLAS Chapter II-2 Reg. 5.3.2.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Approval documentation
Certification in accordance with Class Program DNVGL-CP-0338, September 2018.

Test report No. FT10026 dated 26 January 2010 from Far East Fire Testing Centre, Shanghai, China.
Test report No. 195662 dated 7 September 2010 from Exova Warrington, Cheshire, UK.

Tests carried out
Tested according to IMO FTPC Part 5 and 2 and in compliance with IMO 2010 FTP Code Ch. 8.

Marking of product
The product is to be marked with name of manufacturer, type designation and fire-technical rating.

Transport Canada Approval
Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

Periodical assessment
DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Program DNVGL-CP-0338, Section 4.

Form code: TA 251

Revision: 2016-12

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CHỨNG NHẬN CHẤT LƯỢNG Certificates



EC DECLARATION OF CONFORMITY

We hereby declare that the following specified equipment complies with the Marine Equipment Directive 2014/90/EU.

Equipment description	High Pressure Laminate (HPL)
Type	Duropol HPL IMO / Duropol HPL Metallic IMO
Thickness	0.5 – 0.8 ± 0.1 mm
Manufacturer	Pfleiderer Arnsberg GmbH
Manufacturer Address:	Westring 19-21, D-59759 Arnsberg

This equipment has been tested to verify compliance with the following Regulations and Testing Standards:

EC Type Examination Certificate (Module B)

Certificate No. MEDB00000BM, Revision No: 1

Valid until 10-12-2024

QS – Certificate of Assessment – EC (Module D)

Certificate No. MEDD0000018, Revision No: 3

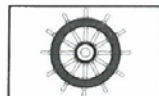
Valid until 10-08-2020

Appendix MED / 3.18a, Revision No: 3

Valid until 10-12-2024

USCG approval number 164.112/EC0575/MEDB00000BM

Product affixed with following mark and identification



0575/XXXX (XXXX= year of production)

Duropal HPL IMO / Duropal HPL Metallic IMO

The technical documentation for this equipment is retained at the following address:

Pfleiderer Arnsberg GmbH, Westring 19-21, D-59759 Arnsberg

Appointed by the manufacturer as the responsible person for signing this Declaration

E. Swengra
Erwin Swengra

Date: 13.01.2020

Name: Erwin Sversepa

Position: Plant Director

Address: Westring 19-21, D-59759 Arnsberg



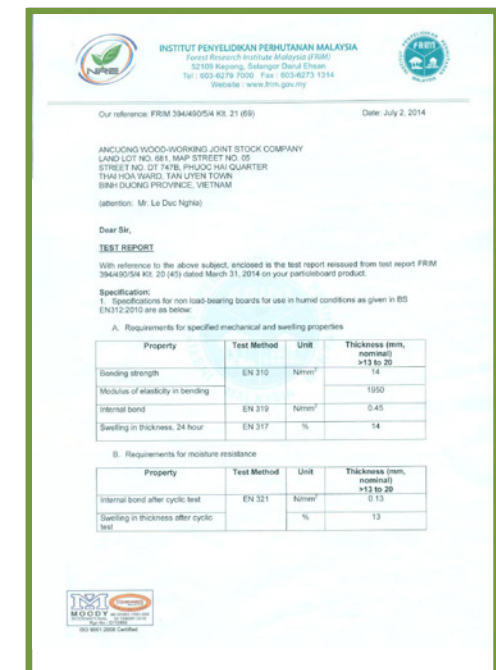
ISO 14001:2015



SA 8000:2014



ISO 9001:2015



WOOD QUALITY CERTIFICATE BY FOREST INSTITUTION

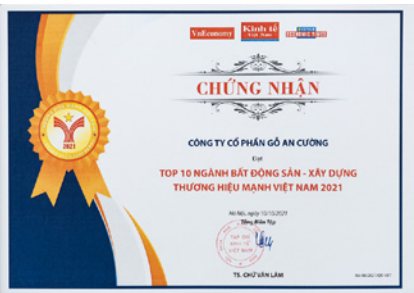


C.A.R.B.



CHỨNG NHẬN CHẤT LƯỢNG

Certificates



ỨNG DỤNG CÔNG NGHỆ

Technology applications

Nắm bắt công nghệ và ứng dụng vào điều hành cũng như sản xuất, An Cường luôn cập nhật những giải pháp mới trong quản lý và phát triển đội ngũ. Hàng loạt ứng dụng được ra đời nhằm hỗ trợ người dùng có cái nhìn thực tế và khách quan hơn về các dòng sản phẩm An Cường đang phát triển.

Keeping up with technology & applying into operation as well as production, An Cuong always updates the new solution in staff management and development. A series of application were launched to give user a realistic & objective view of the An Cuong's growing product line.



TRANG THIẾT BỊ & CÔNG NGHỆ
Machinery and Technology



TRANG THIẾT BỊ & CÔNG NGHỆ
Machinery and Technology



TRANG THIẾT BỊ & CÔNG NGHỆ
Machinery and Technology



**HCMC One-stop Shopping Center**

279 Nguyen Van Troi Street, Ward 10,
Phu Nhuan District, Ho Chi Minh City
Tel: (84.28) 3844 1884 - (84.28) 3862 5726
Fax: (84.28) 3997 0135
Email: infoacc@ancuong.com

HCMC One-stop Shopping Center

39 Nguyen Co Thach Street, An Loi Dong Ward,
District 2, Ho Chi Minh City
Tel: (84.28) 7302 1168
Fax: (84.28) 3862 5727
Email: infoacc@ancuong.com

An Cuong Show Gallery And Design Center

Block A - Happy Valley, 816 Nguyen Van Linh Street,
Tan Phong Ward, District 7, Ho Chi Minh City
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