



“USE THE CORRECT FIRE
PROOF ACP BUILDING
MATERIALS LIMIT THE
DAMAGE TO HUMAN
LIVES & THE STRUCTURE”

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FIRERATED PRODUCTS

**FR A2
B1**

20 YEARSR GUARANTE

Egypt
AFRICA
ALUMINUM COMPOSITE PANEL



FR is an innovative Fire Rated ACP composed of 2 layers of aluminium sheets and fire retardant core (non-combustible mineral core). It is a solution for the projects that require good fire retardant performance.

Egypt Africa Fireproof Aluminum Composite Panel is available in all options skin and panel specifications, thickness, width, and length. PVDF, PE, Brushed, Mirror, and other patterns are all available to be produced as Fire Retardant Panel.

BUILDING CODES FOR VARIOUS COUNTRIES

The fire safety norms for different countries have been updated and changed according to the present scenario.

The type of buildings in Africa and Middle-east for instance have been categorised into non-sprinkler protected building and sprinkler protected building. In the non-sprinkler protected building it is mandatory for them to use Class A2 according to EN1-13501 in the exit ways such as staircase and passageways.

In UAE also certain changes have been done for the buildings above 15 meters. Any cladding material used should have Class A2 in accordance to EN1-13501. This is not only for the building heights but if the buildings are educational, hospitals, malls, assembly, theme parks or if they have less than 3 meters separation distance from the property line and/or from the adjacent building the same Class A2 material has to be used.



PRODUCT SPECIFICATIONS

Sl #	Description	Standard	Unit	AL 45 Class A2
E	COATING DETAILS			
1	Coating Type	AAMA 2605	PVDF/Lumiflon resin based Fluorocarbon coating	
2	Coating Thickness	AAMA 2605	25-28 μ (For Two Coat) 30-35 μ (For Three Coat)	
3	Gloss (60°)	ASTM D523	%	15-60
4	Formability (T-Bend)	ASTM D1737	T	2T
5	Reverse Impact- Crosshatch	NCCA II-5		No Pick Up
6	Pencil Hardness	ASTM D3363	Min	H
7	Adhesion	ASTM D3359		
	i Dry	METHOD 8		No Pick Up
	ii Wet	37.8°C, 24 hrs		No Pick Up
	iii Boiling Water	100°C, 20 min		No Pick Up
8	Abrasion Resistance	ASTM D968	Liters/Mil	40
9	Chemical Resistance Test	ASTM D543		
	i 10% HCL (1 hrs)			No Visual Change
	ii 20% H ₂ SO ₄ (72 hrs)			No Visual Change
	iii 20% NaOH (18 hrs)			No Visual Change
	iv 3% Detergent Solution (38°C for 72 hrs)			No Visual Change
	v Mortar Pat Test	AAMA 2605		No Visual Change
10	Weather-O-Meter Test	ASTM D2244		
	i Gloss retention			70% after 4000 hrs
	ii Color retention			Max. 5 units after 4000 hrs
	iii Chalk resistance			Max. 8 units after 4000 hrs
F	FIRE PROPERTIES			
	Reaction to fire	EN13501-1		Class A2 S1 D0

Product Tolerance: Panel width ± 2.0 mm - Panel length: ± 4.0 mm - Panel thickness: ± 0.2 mm - Maximum squareness: 5.0 mm
Maximum bow: %0.5 of width and/or length - Coil thickness: 0.03 mm tolerance



CONTENT

1	Content	01
	About us	04
	Why A2 - B1 Plus	05
2	The Core Secret	06
	Product Composition	06
	ACP Line Process	07
3	Application	08
	Production Capacity	09
	Product Specifications	10





ABOUT US

Egypt Africa is deservedly the largest Cladding Factory in the middle east & Africa. We offer aluminum corrugated core panels in the highest grade A2-FR. They are blessed with the unique feature to withstand high temperatures and extreme weather conditions.



ALUMINIUM COMPOSITE PANEL (ACP)



PRODUCT SPECIFICATIONS

Sl #	Description	Standard	Unit	AL 45 Class A2
A	PRODUCT DETAILS & THICKNESS		mm	4
1	Cover sheet thickness		mm	0.5
2	Alloy	ASTM B209 M		AA 5005
3	Core material			Mineral core
B	ALLOY DESCRIPTION	ASTM B209 M		H22/ H24
C	PHYSICAL PROPERTIES (FOR ACM)			
1	Weight	ASTM D592	Kg/m ²	8.1
2	Water Absorption	ASTM C272	%	Nil
3	Coefficient Of Thermal Expansion-a	ASTM D696	°/C	24.0 x 10 ⁻⁶
D	MECHANICAL PROPERTIES			
	Aluminium Skin			
1	Tensile Strength	ASTM E8	Mpa(N/mm ²)	Min. 150
2	Tensile Yeild (0.2% Proof Stress)	ASTM E8	Mpa(N/mm ²)	Min. 125
3	Elongation	ASTM E8	%	Min. 3
4	Modulus Of Elasticity	ASTM E8	Mpa(N/mm ²)	> 68000
5	Surface Resistivity (Static Charge)	ASTM D257	Ω	1.6 x 10 ¹²
	ALINIUMIUM COMPOSITE PANEL			
1	Tensile Strength	ASTM E8	Mpa(N/mm ²)	50
2	Tensile Yeild (0.2% Proof Stress)	ASTM E8	Mpa(N/mm ²)	45
4	Bond Integirty (Peel Strength)	ASTM D903	N/Mm	9
5	Elongation	ASTM E8	%	5
5	Flexural Strength	ASTM D790	Mpa(N/mm ²)	116
6	Flexural Stiffness/Rigidity	ASTM D790	Mpa(N/mm ²)	14034
7	Shear Strength	ASTM D732	Mpa(N/mm ²)	18
8	Sound Transmission Class	ASTM E 413	dB	26



A MAJOR STEP TO ARREST FIRE CASUALTIES



Fire-retardant (FR) materials have become an important ingredient in modern construction. With more and more skyscrapers towering towards the skies in bustling cities, fire protection has taken centre stage across the world.

Using genuine FR material is critical to safety in the Fire Rated Construction System. Fireproof Aluminum Composite Panel is a slap-up fire safety material for wall decoration. It is a new type metal composite material.



A2-FR grade Aluminum Corrugated Composite Panel (ACCP) is increasingly being installed in medical labs, showrooms, chemical factories, plants, commercial buildings or industrial spaces where the likelihood of a fire occurrence is high.

WHY CHOOSE A2 - B1 PLUS?

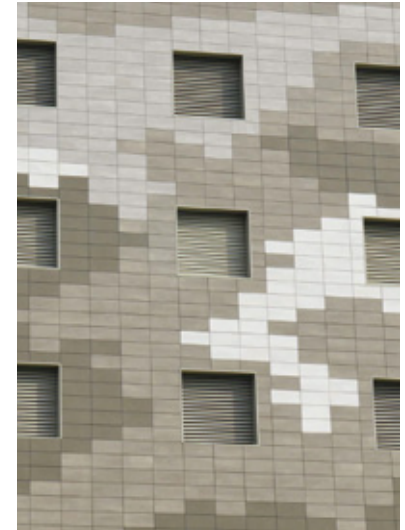
15 meters, industrial and public buildings, airports, hospitals, hotels, tunnels and underground stations. It releases a negligible amount of heat and doesn't contribute to flame spread at all. No toxic gases or smoke and flaming droplets are produced, it ensures negligible damage to property, hassle-free evacuation, and zero chance of casualty.

IT'S TIME TO BEAT THE FIRE

Welcome a new dawn of fire safety with Egypt Africa first A2 grade. It has fireproof properties similar to metals. A2 is the highest available grade of fire-retardant ACP in the world made with more than %90 inorganic mineral content.

APPLICATIONS

- Exterior Wall of Building & Curtain Wall
- Refitting or Renovating Of Old Building Exterior Wall
- The Balcony, Equipment Unit & Interior Compartments
- Panel, Logo Plate & Display Platform
- The Interior Wall Decoration Panel, Ceiling & Advertising Board
- Industrial Usage & Cold Car Body etc.



PRODUCT CERTIFICATIONS & REPORTS

Egypt Africa is the first Egyptian brand to indigenously develop and manufacture fire-retardant A2 core (patent for composition has been applied for). The feature has been designed particularly for Africa conditions.

Egypt Africa is the first company of Africa origin to have received the factory production certificate (FPC) for class A2

OUR PRODUCTION CAPACITY

Two palletizing units having a total production capacity of 5000MT per annum. The 3 lamination lines are dedicated to the production of fire-retardant materials. At the in-house fire-testing lab, along with other tests the ISO 1716 test for class A2 is conducted. It is this test where the total calorific value, or the energy or heat released to be combusted, can be measured.



ACP LINE PROCESS

Screw Feeder:	Feeds the Plastic granules to the extruder.
PE Extruder:	Extruder pushes the plastic granules towards T-Die in the shapes of semi liquid state with the help of heaters.
Screen Change:	Set of screen works with hydraulic system and restricts all hard particles.
T-Die:	Spreads the plastic into sheet form.
Three roller calender:	Forms the sheet, maintain the width & thickness.
Adhesive film Covering:	Adhesive film sticks top and bottom and works as bonding agent to the Aluminum coil.
Aluminum Uncoiler:	Uncoils the Aluminum top and bottom and sticks to the PE sheet.
Heating Unit:	Consist of set of rollers combination of rubberized and steel rollers, steel rollers will be heated by circulating Thermal oil in it which compress and composite panel.
Water Cooling:	Consists of set of rollers combination of rubberized and steel rollers, steel rollers will be cooled down by circulating cool water in it.
Industrial Cooler:	Cools down the sheet to normal atmospheric temperature.
Protective film covering:	A UV protective film sticks on top finished aluminum coil, which protects the sheet Ultra Violets rays.
Longitudinal Trimmer:	Maintains the width of the required sheet.
Five rollerflat section:	Maintains the sheets flat.
Towing Device:	Pulls the sheet and the speed of the following rollers are synchronized with three roller calender unit.
Cutting Machine:	Cuts the sheets in required lengths by photo sensor (auto adjusted) or the sheet can be cut manually by a foot switch.

THE CORE SECRET

FireWall is a non-halogenated FR material that produces water vapour when it heats up. It does not produce toxic gases like the halogenated materials.

Magnesium hydroxide (MDH) is the non-halogenated material that is mixed with PE to form the core of F1 FR products. MDH has a better fire-resistance performance than aluminium trihydrate (ATH), the other non-halogenated material, owing to higher decomposition temperature. Furthermore MDH is more environment-friendly than other similar materials

MDH delays the PE transformation from solid to plastic (the point of ignition) up to 360°C, by releasing water molecules and bringing down the temperature continuously.

For high-rises beyond 15 meters Africa Bond A2 is a better and safer material compared to other fire-retardant ACPs.

Africa Bond A2 releases negligible heat, no smoke and produces zero flaming droplets.

While FireWall resists fire, Africa Bond A2, owing to its %90 mineral content, completely stops it from spreading.



Negligible heat released



Negligible smoke released



Zero spread of flames

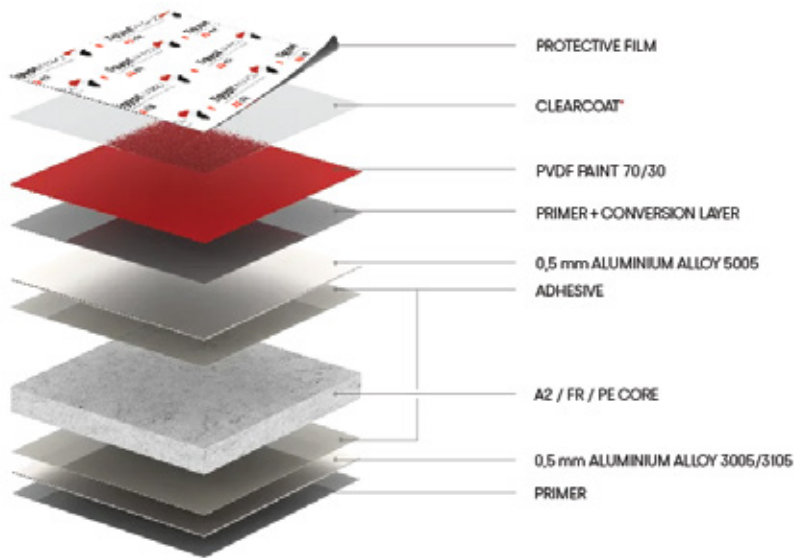


Zero flaming droplets



In-house quality checks

A2 PRODUCT COMPOSITION

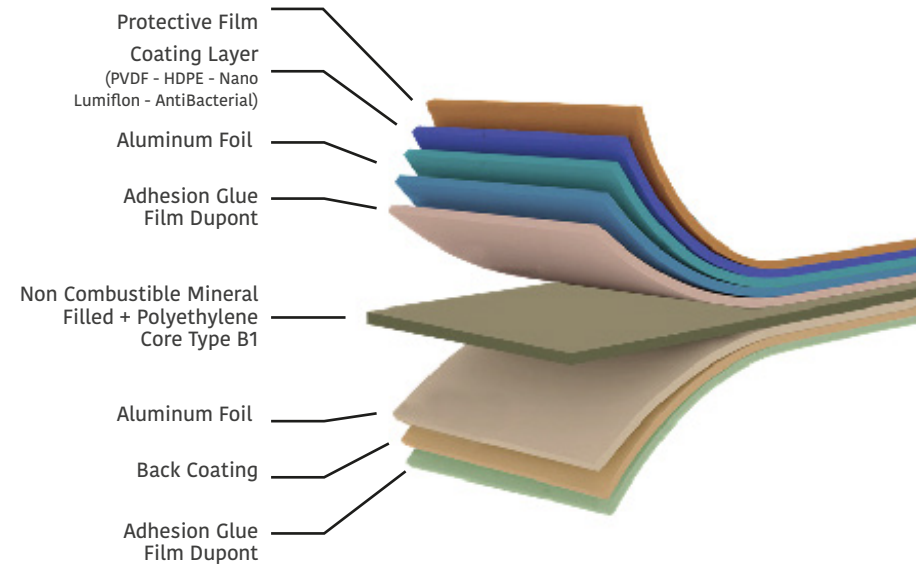


Two sheets of Aluminum Alloy 5005/3003 Series with 0.40 mm thickness on top (Coated with PVDF Paint) & Bottom (Primer coated) are sandwiched with FR minerals as a core material formed in continuous co-extrusion process with adhesives. The core material is free of voids and air spaces and does not contain foamed insulation materials.

Total Thick 4mm	Aluminium Thick	Kg/m ²
FR-A2	0.4 mm	8.5 / kg
FR-A2	0.5 mm	9.2 / kg



B1 PLUS PRODUCT COMPOSITION



Two sheets of Aluminum Alloy 5005/3003 Series with 0.40 mm thickness on top (Coated with PVDF Paint) & Bottom (Primer coated) are sandwiched with FR minerals as a core material formed in continuous co-extrusion process with adhesives. The core material is free of voids and air spaces and does not contain foamed insulation materials.

Total Thick 4mm	Aluminium Thick	Kg/m ²
FR-B1	0.4 mm	7.5 / kg
FR-B2	0.5 mm	8.1 / kg

