

ALSTRONG
always looks new



Befriending a
Greener
Planet

FR-A2
GRADE

For Sales
& Inquiry



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OVERSEAS OFFICES UNITED ARAB EMIRATES

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WORKS ADDRESS: Plot no: 61 (D.M. 532-125), Block: Saih Shuaib 3 (532)
Dubai Industrial Park, PO box: 18984

ALSTRONG FR ACP
Aesthetic design with built-in
— FIRE RESISTANCE —

FR-A2 GRADE

Technical Specifications

(A) Physical Properties of Alstrong FR-A2 ACP

SR. NO.	TEST PARAMETERS	TEST METHODS	UNITS	RESULTS
1	Panel Thickness	Visual	mm	4.00
2	Panel Coating Thickness	ASTM D 7091	μm	25 - 28
3	Panel Weight	Visual	Kg/m ²	8.20
4	Core Density		g/cm ³	1.71
5	Panel Density	ASTM D-1505	g/cm ³	2.04
6	Tensile Strength	ASTM E 8	MPa	40.0
7	0.2% Proof Stress.	ASTM E 8	MPa	45.50
8	% Elongation	ASTM E 8	%	>=5
9	Peel Strength Top Side	ASTM D 903	N/mm	11
10	Flexure Strength	ASTM D 790	MPa	155.5
11	Flexural Modulus	ASTM D 790	Mpa	21814

(B) Properties of Aluminum Skin

SR. NO.	TEST PARAMETERS	TEST METHODS	UNITS	RESULTS
1	Skin Thickness	Visual	Mm	0.50
2	Tensile Strength	ASTM E 8	MPa	160
3	Modulus of Elasticity	ASTM E 8	N/mm ²	70,000
4	Elongation	ASTM E 8	%	5
5	0.2% Proof Stress	ASTM E 8	MPa	130

(C) Thermal Properties Test:

SR. NO.	TEST PARAMETERS	TEST METHODS	UNITS	RESULTS
1	Thermal Expansion Test	ASTM D 696	mm/M/100° C	PVDF, Passes

(D) Paint Finish and Test Properties:

SR. NO.	TEST PARAMETERS	TEST METHODS	UNITS	RESULTS
1	Lacquering (PVDF)	Chemicals	--	PVDF, Passes
2	Taber abrasion test CS-17 Wheels, 1kg, load, 1000 cycles	ASTM D 4060	Mg/1000 cycle	45
3	Adhesion (Cross Hatch) dry wet (50° C, 20 min)	ASTM D 3359	Rating	5B
4	Adhesion (Cross Hatch)	ASTM D 3359	Rating	5B
5	Hardness - Pencil	ASTM D 3363	B/H	H
6	Water Absorption Test	ASTM D 570	%	0.2
7	Gloss at 60	ASTM D 523	%	30
8	Impact Test (Front & Reverse)	ASTM D 2794	Joules	27 J, Passes 50 kg/cm
9	T bend	ASTM D 4145	T	Passes IT

LEADING

the way

(E) Chemical Test (Chemicals Drop Test)

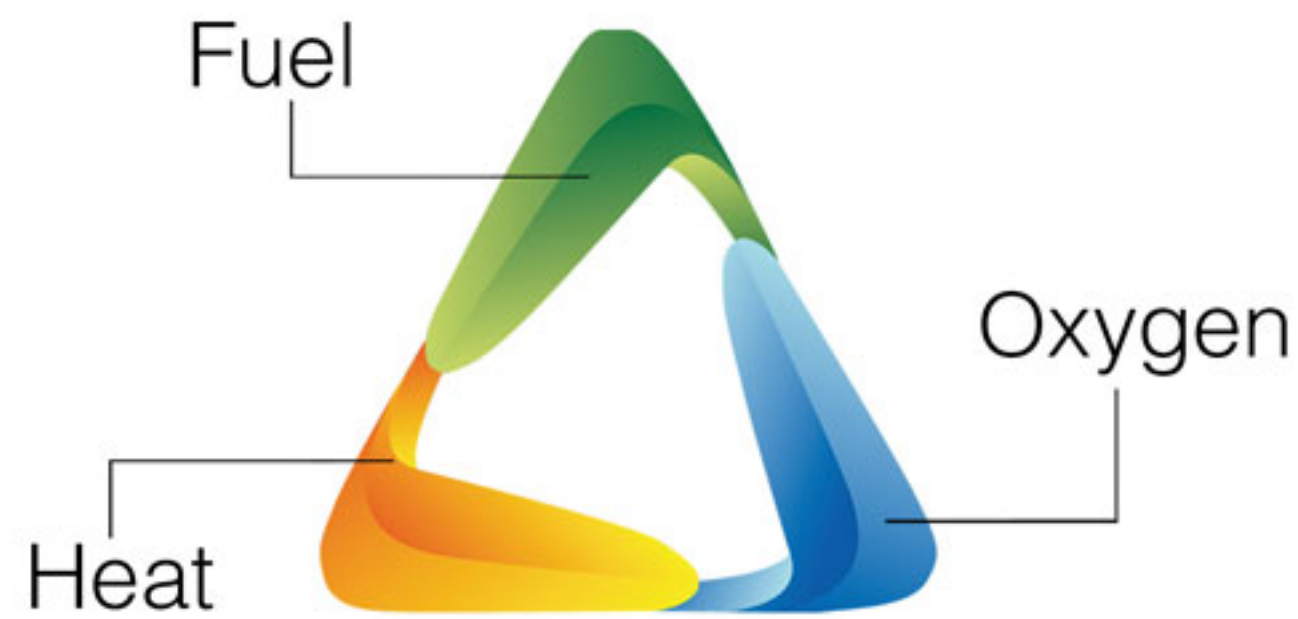
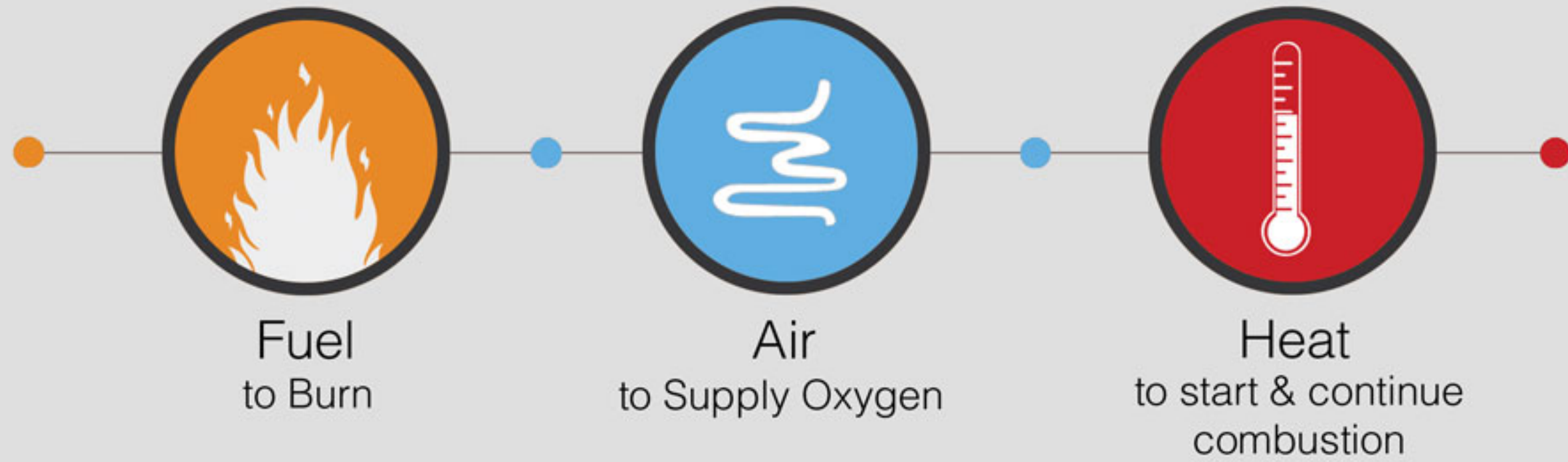
SR. NO.	TEST PARAMETERS	TEST METHODS	RESULTS
1	A) 10% HCl, 5 min B) 20% H ₂ SO ₄ , 10 hrs. C) 5% NaOH, 48 hrs. D) 20% HNO ₃ , 30 Min E) Engine Oil Resistance F) Solvent Resistance MEK	ASTM D 1308	Passes No blister, creep & no rust observed
	G) Oil Resistance 24 hrs.	AAMA D 2605	Passes No blister, creep & no rust observed
2	Aluminum Alloy Chemical Compositions % Mn % Mg % Si % Cu % Fe % Zn % Al	EN-AW-3003, H 24 By Spectro Test	Pass 1.33 0.6 0.55 0.088 0.68 0.10 96.652

(F) Test Results of ACP

SR. NO.	TEST PARAMETERS	TEST METHODS	SPECIFICATIONS	RESULTS
1	Gloss Retention	ASTM 523 or ECCA T2	Min 60% (10 years)	93.0
2	Colour Retention	ASTM D 2244 or ECCA T3	5 units (Max) over 4000 hrs	(Delta E Change) 4.31
3	Chalk Resistance	ASTM D4214 or ECCA T14	Max rating 8 units after 4000 hrs	No Chalking
4	Salt Spray Test, 3000 Hrs	ISO 9227	No crack blister found	Pass
5	Humidity Test, 3000 Hrs	ASTM D 2247	No crack blister found	Pass

3 Elements are required

in proper combination before Ignition & Combustion can take place:

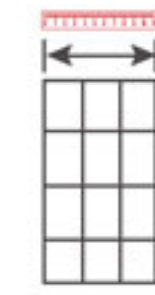


We are removing the plastic core material that acts as fuel for the fire. We are replacing that with flame resistant mineral core, thus breaking the fire triangle.

Fire can be extinguished by removing any one element of the fire triangle

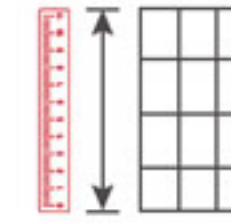
Applications

ACP Panel Dimensions



WIDTH

- 1250 mm
- 1250 mm
- 1250 mm

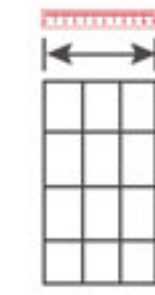


LENGTH

- 2400 mm
- 3200 mm
- 4000 mm

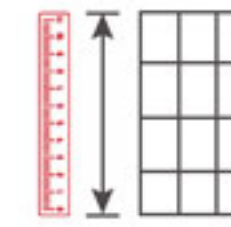
Panel Options

Up-on request



WIDTH

Up to 1550mm (On order)



LENGTH

Upto 6000 (On order)

PANEL THICKNESS

- 3 mm to 6 mm

SKIN

- 0.25 mm to 0.50 mm

PVDF Coating



GRADE

- HB-I
- HB-II
- HB-III

PANEL THICKNESS

- 4 mm
- 4 mm
- 3 mm

SKIN

- 0.50 mm
- 0.25 mm
- 0.25 mm

ACP Panel Tolerance

WIDTH

- ± 02 mm

LENGTH

- ± 02 mm

THICKNESS

- ± 0.2 mm

SKIN

- ± 0.02 mm



During a fire, precious lives are lost by breathing in poisonous smoke rather than from fire.

Fire Safety
in High Rise
Buildings



FIRE RESISTANT

Fire Behaviour - A2

FIRE TEST FOR BUILDING MATERIAL - CLASSIFICATION

Building materials fire behaviour has been classified into the following categories in accordance with the global standard.

BUILDING CLASS MATERIAL

CLASS A	A1
	A2
CLASS B	B1
	B2
	B3

DESIGNATION

NON-COMBUSTIBLE MATERIAL
NOT EASILY FLAMMABLE
FLAMMABLE
EASILY FLAMMABLE

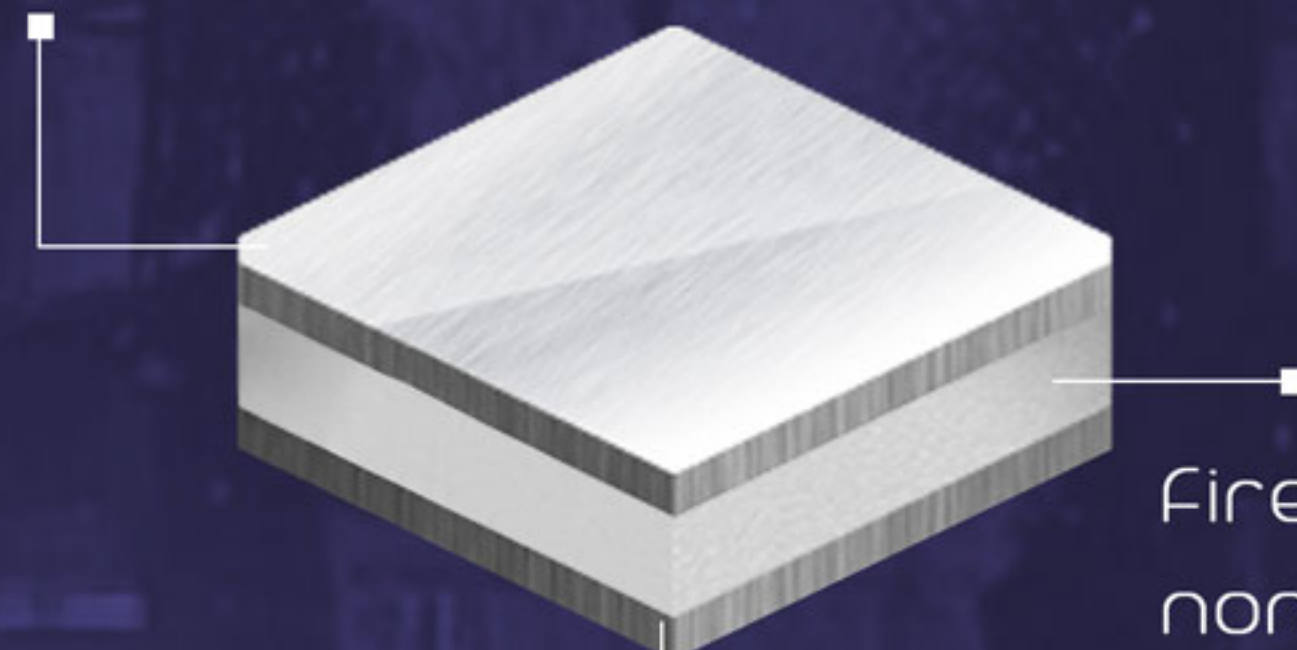
Alstrong FR-ACP - Rated A2



ALSTRONG

ALSTRONG A2 ACP has been developed exclusively for the fire prevention regulations in architectural products. It is non inflammable and offers all the proven product properties of world class fire rated ACP, such as flatness, formability, resistance to weather and easy installation.

0.25 mm to 0.50 mm



Fire Retardant with non-combustible mineral core

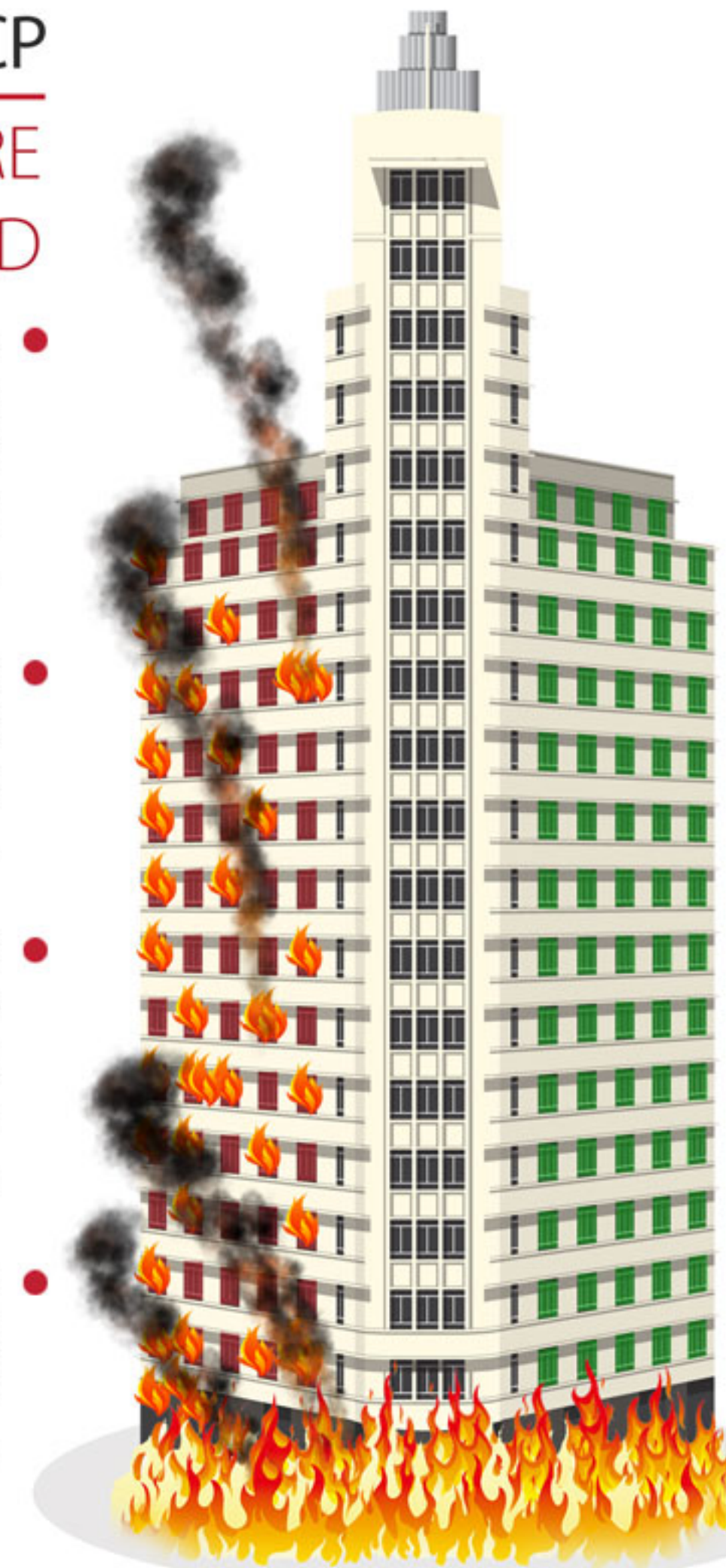
0.25 mm to 0.50 mm

FIRE BEHAVIOUR in a building

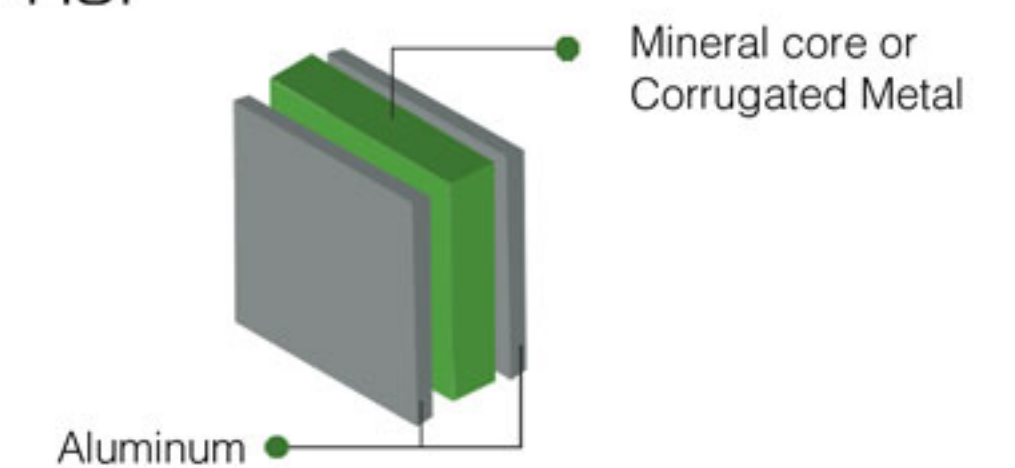
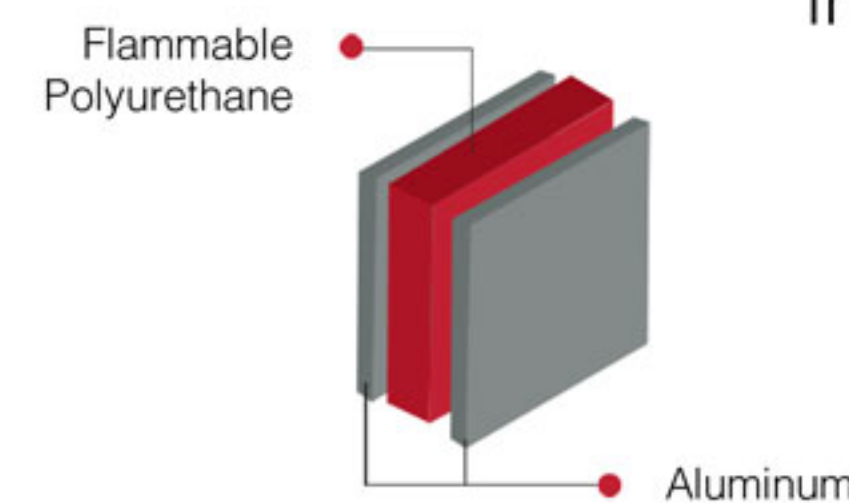
REGULAR ACP

RAPID FIRE SPREAD

- Fire spreads upwards due to combustible core material of the ACP cladding, thereby fueling the fire.
- Panels upwards in the path of fire get consumed and fire spreads rapidly.
- Fire accelerates failure of nearby panels, so flames race through the entire facade.
- Flames enter the cavities between building and panels & seek oxygen & fuel.



Internal or External Fire Incident



ALSTRONG A2 ACP

RESTRICTED FIRE SPREAD

- Fire spread is restricted as the core material is non-combustible mineral core.
- The core material has no falling droplets to avoid further spread of fire and injury to people below.
- The fuel supply is not available from the cladding which is the main source of fuel for secondary fires.
- As the cladding does not fail it acts as barrier to further supply of oxygen for the fire.

LEGEND



SYNERGY

Alstrong FR
is not only
Strong but also
has excellent
aesthetic appeal

FEATURES OF FIRE RESISTANT ACP



Fire
Resistant



Sound
Absorbant



Environment
Friendly



Durable and
Aesthetic



Dust
Resistant



Corrosion
Resistant



Fast
Application



Ultra
Modern

**LEADER IN THE
ACP INDUSTRY**