

## WHO WE ARE



Passion to protect is more than just a slogan, it's a way of life for NAFFCO. Keeping you safe and your property secure is our business.



#### **MISSION**

To empower customer to secure life, environment, property and business by delivering high quality and innovative protection solutions and knowledge using world class manufacturing.

#### **VISION**

To be the world's number one provider of innovative solutions in protecting life, environment and property.

NAFFCO's priority is your safety, our target is to provide complete safety measures in all aspects, this is why we have created **TUFPANEL**, to provide safety in building facades.























### TUFPANEL

# Fire Resistant Aluminum Composite Panel

We transform architecture around the world by helping architects and building owners enhance their building envelope fire performance and safety while maintaining its affordability and aesthetics.

TUFPANEL® A2 ACP non-combustible aluminum composite panel is manufactured in Jebel Ali Free Zone in the United Arab Emirates, an ISO 9001 certified production facility spanning an area of over 30,000m² and equipped with the latest automated technology of in-house mineral core production and pre-painted coils lamination.













#### **LOCALLY MANUFACTURED**

• TUFPANEL" is locally manufactured with noncombustible class A2 Mineral Core.



WHY TUFPANEL®

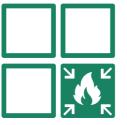
#### **VARIETY OF APPLICATIONS**

• TUFPANEL" can be actively used in all low, medium & high rise building such as commercial, industrial & residential facilities.



#### **CUSTOMIZABLE AS PER REQUIREMENTS**

• TUFPANEL is designed and customized in such a way to cover any complex building for both exterior & interior applications.



#### **FIRE RESISTANT**

• TUFPANEL comprises of 3mm to 5mm core sandwiched between pre-painted Aluminium Skin. Our core performance restricts flame spread and restricts smoke development for evacuation activities.



#### **ACCREDITED**

• TUFPANEL meets all the AHJ Regulation with Listing.





## ADVANTAGES OF TUFPENEL

## IN-HOUSE A2 CORE MANUFACTURING



Fully manufactured by **TUF**PANEL<sup>®</sup> (including the core)



100% Quality Control



Complying with Fire Codes Regulations and **UL** listing



Easy fabrication



Light Weight



Durable



Weather & stain resistant



**Corrosion resistant** 









Better sound dampening



Long life span



Easy maintenance



Eco friendly



ADVANTAGES THAT MAKE TUFPENEL THE EXCELLENT CHOICE 8

## **CHOOSE YOUR COLOR**

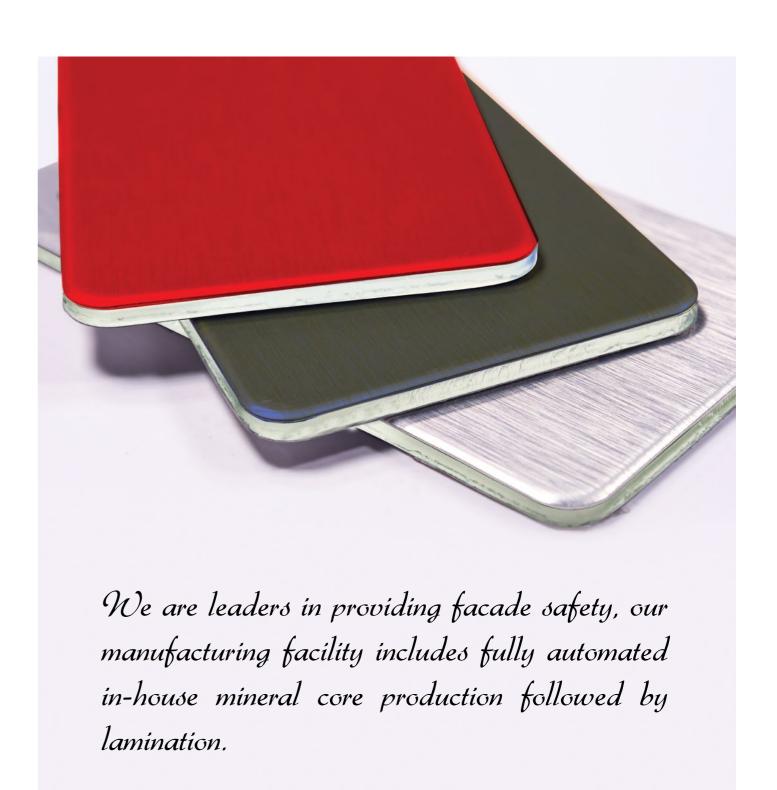


## **ACP COATING & COLORS**



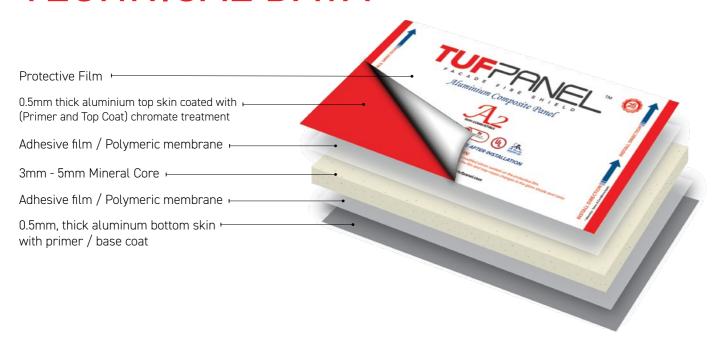
- · Above colors are for visual representation, physical sample will be given for color approval.
- · Custom color can be done upon request, contact us for more options.

## **EMINENCE**





## **TECHNICAL DATA**



S. NO.	TYPE	DESCRIPTION	
1	Name of the Brand	TUF?ANEL"	
2	Country of Origin	U.A.E.	
3	Panel Thickness	4mm, 5mm, 6mm	
4	Standard Width	1m, 1.25m, 1.5m	
5	Standard Length	up to 6m	
6	Weight	7.9 kg/m² to 11.5 kg/m² ± 0.5 kg/m²	
7	Core	3mm to 5mm thick non-combustible core	
8	Panel description	Coated Aluminium on top + Mineral Core + Primer base coated coil at bottom	
9	Alloy	AL 3003, AL 3105, AL 5005	
10	Temper	H16 , H24	
11	Coating Thickness	Top Skin (Primercoat + Topcoat + Clearcoat - optional) Bottom Skin (Primer base coat)	
12	Panel Size Tolerance	Width ±2mm & length ±3mm	
13	Thickness Tolerance	±0.2mm	
14	Squareness Tolerance	≤5mm	
15	AHJ Compliance	EN 13501-1 (EN 13823 + EN ISO 1716), ASTM D 1929, NFPA 285 (UL)	
16	Coating system	PVDF, HDPE, Polyester, FEVE	
17	Surface treatment	Chromate treatment for top and bottom skin	









## **UL LISTED PRODUCT/ SYSTEM**

TUFPENEL is UL certified as a whole system, also, cladding panels in the system is UL certified individually.

The system is tested with the biggest cavity gap & single largest panel size - 2267.50mm x 3014mm.



#### **IN-HOUSE A2 CORE MANUFACTURING**

The only brand in the Middle East with complete A2 core production in a continuous line.

100% quality control to maintain consistency of core for every single panel produced.



#### **SINGLE UNIT RESPONSIBILITY CERTIFICATE**

Single unit responsibility certificate for the quality of each and every element/unit in the whole system.

Inspection for the whole system during and after installation.

Warranty of up to 25 Years or more. \*



#### **FULLY EQUIPPED IN-HOUSE TEST LAB**

Various testing tools & machineries for all parameters.

Fully accessible for client to ensure his production batch quality.

# **TUF**PANEL™ A2 ACP has successfully passed many of the global fire performance tests such as NFPA 285 and EN 13501-1.

#### TUFPANEL A2 ACP will NOT:

- Endanger people through toxic gases and smoke
- Spread the fire to the next floor and sideways
- Endanger people or help the fire expand due to droplets
- Contribute with energy to the fire, and it is extinguished

## STANDARD TESTS REQUIRED

**ASTM E-84 - CLASS A** 

This test ensures the surface Burning Characteristics of Building materials & determine the Flame Spread Index (FSI) & Smoke Development Index (SDI).

#### **NFPA 285**

This test method evaluates the inclusion of combustible components within wall assemblies/panels that are required to be of noncombustible construction. Its a simulation of the multistory flammability fire performance of the entire exterior wall assemblies.

#### EN 13501-1

This test measures the spread of flame and contribution to fire as well the generation of smoke and the production of burning droplets.

BSEN 13501-1:A2

**BSEN ISO 1716** 

**BSEN 13823** 

ASTM D1929 > 343 °C



### TUFPANEL Test Results

STANDARDS	EXPLANATION	RESULTS	
	EN 13501 - 1 - Classification of reaction to fire performance in accordance with BS EN 13501-1	Fire Behavior	A2
EN 13501-1 (EN 13823 + EN ISO 1716)	EN 13823 - Reaction to fire test for building materials	Smoke Development	S1
	EN ISO 1716 - Determination of Gross heat of Combustion	Fire Droplets	D0
ASTM E 84	Standard Test Method for surface	Flame Spread Index	5
ASTM E 04	burning characteristics	Smoke Development Index	0
		System Test	Pass
NICDA 205	Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components	Cavity Gap mm	230
NFPA 285		Air Gap mm	180
		Max Panel Dimension (W x H) mm	2267.50 x 3014
		ACP (FTI - Flash Ignition Temperature)	446 °C
ACTM D 1020	Standard Test Method for determining	ACP (SIT - Spontaneous Ignition Temperature)	467 °C
ASTM D 1929	ignition temperature of plastics	Core (FTI - Flash Ignition Temperature)	478 °C
		Core (SIT - Spontaneous Ignition Temperature)	499 °C
ASTM D 648	ASTM D 648  Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position		≥100 °C
ASTM C 518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	Thermal Conductivity	≤ 0.5 W/(m.K)
ASTM D 696	Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics	Linear thermal coefficient of expansion	≥2.4 mm/m/ °C

16



## **ECO-FRIENDLY**



Inorganic matrix core



Minimizing carbon foot print



Fire Safety, Non-combustible core



Light weight and high rigidity



Superior flatness



Unlimited range of finishes and various alloy



Extensive application use HVAC



No Ignitability



No Flammability/ Heat Release



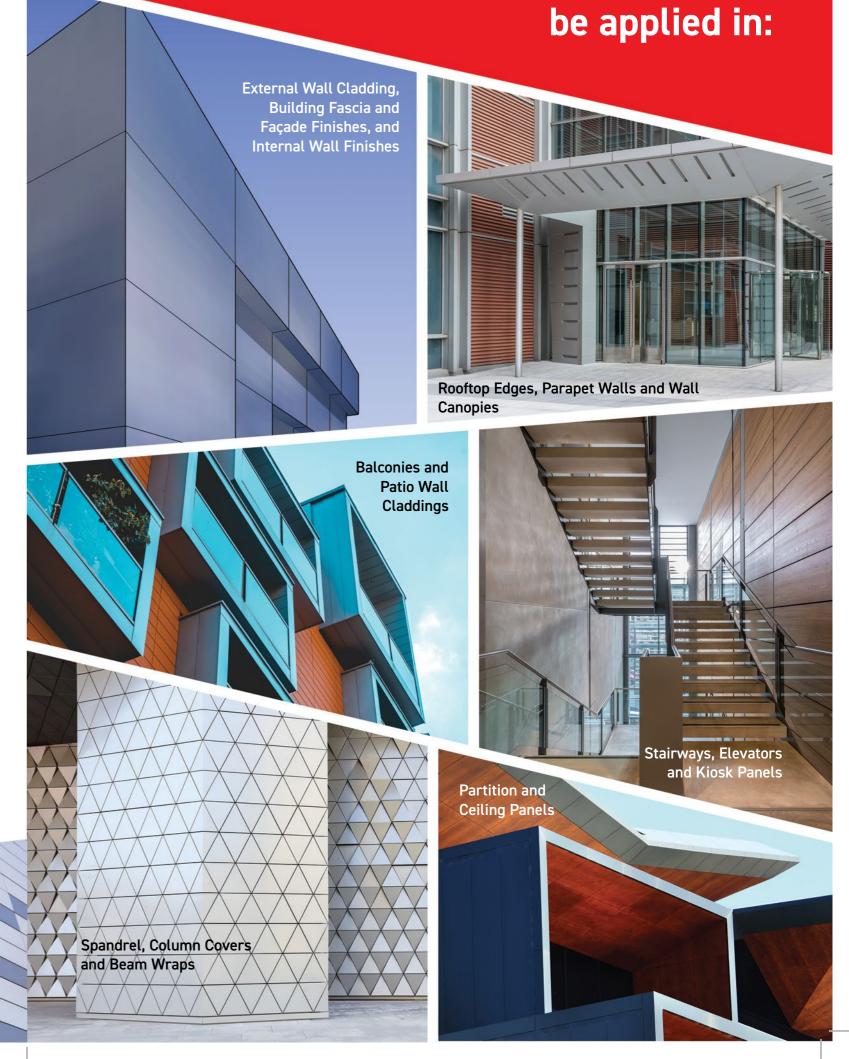
No Combustion Gases



No Toxicity



No Smoke Emission



TUFP∩NEL® A2 ACP can





## COATINGS

• TUFPANEL A2 ACP are coated with best quality paints procured from world-renowned paint suppliers such as PPG®, Becker, Azko Nobel®, and Spectrum®. Our technicians ensure that the quality of our coated coils is always maintained to the highest standards and conform to AAMA 2605-07 "Superior Performance Standard".









#### **COATING SYSTEMS**

#### **PVDF System**

Polyvinylidene fluoride (PVDF) coating provides:

- Extreme weather ability and UV resistance Excellent resistance to fading and chalking, and very high retention of gloss and color.
- High thermal stability means that they can be used to create 'cool roofs' They provide an insulating layer which contributes to lower air conditioning costs.
- Excellent chemical resistance Protects from the various pollutants, it might be exposed to and provides resistance to stains.
- Versatility PVDF coatings are modifiable to give extra properties such as antidirt or anti graffiti.
- Flexibility PVDF coatings can be bent and mold after application without damaging or cracking the finish.

#### **FEVE System**

LUMIFLON - FEVE (Fluoro-Ethylene / Vinyl Ether co-polymer):

- Aesthetics Long lasting colors with a wide gloss range. They simply look great and keep looking great year after year.
- Corrosion Resistance Improves resistance to corrosion from water, oxygen and even chloride ions, ensuring a longer life for industrial structures like bridges with far less need for repainting.
- Sustainability LUMIFLON eliminates the environmental impact of repeated repainting and recoating.
- Lower Life Cycle Cost Because they last so much longer, LUMIFLON-based coatings can substantially reduce any project life cycle costs, including maintenance, replacement and recoating costs.

#### **HDPE System**

High Durable PolyEster coatings are:

- High performance exterior quality finishes that provide superior resistance to ultraviolet rays. These coatings are field-proven and resulting in exceptional color and resistance to chalking and chemical degradation.
- These coatings provide good exterior durability, resistance to sun, rain and other natural elements in moderate climates.

#### Polyester System

POLYESTER Topcoat system, with Good Adhesion and UV - Resistant properties. The product also has good flexibility and can be used for Interior and Exterior applications.

## UL CERTIFICATE OF COMPLIANCE

#### CERTIFICATE OF COMPLIANCE

Certificate Number

R40074

Report Reference Issue Date R20191231-40074 -2020JANUARY13-

Issued to:

NATIONAL FIRE FIGHTING MFG FZ CO

PO BOX 17014

JEBEL ALI FREE ZONE

**DUBAI UNITED ARAB EMIRATES** 

This certificate confirms that representative samples of EXTERIOR WALL SYSTEM COMPONENTS, EXTERIOR

WALL SYSTEMS

Composite exterior wall panels designated "TUFPANEL™ A2", nominally 4 mm thick, with inorganic mineral core material and aluminum skins on both surfaces, Classified under the Exterior Wall System Component category

(FWFX).

Have been investigated by UL in accordance with the

Standard(s) indicated on this Certificate.

Standard(s) for Safety:

NFPA 285 - STANDARD FIRE TEST METHOD FOR

**EVALUATION OF FIRE PROPAGATION** 

CHARACTERISTICS OF EXTERIOR WALL ASSEMBLIES

CONTAINING COMBUSTIBLE COMPONENTS

Additional Information:

See the UL Online Certifications Directory at

https://iq.ulprospector.com for additional information.

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product









# THOMAS BELL-WRIGHT CERTIFICATES





# DUBAI CENTRAL LABORATORY CERTIFICATES



#### **CERTIFICATE OF PRODUCT CONFORMITY**



Dubai Central Laboratory Department (DCLD) of Dubai Municipality

hereby attests that the product(s)

TUF PANEL A2 (ALUMINUM COMPOSITE PANEL)

(Details as per the attached Scope of Certification)

manufactured by:

NAFFCO FZCO

PLOT NO. MO0122, MO0135, MO0145A, P.O. BOX 17014, JEBEL ALI, DUBAI, UAE

have been assessed in accordance with DCLD Document Ref. No. DM-DCLD-RD-DP21-2001 (IC) "General Rules for DM Third Party Product Certification Scheme Through Factory Assessment" and Technical Approval Requirements TAR 172.

Accordingly, DCLD hereby authorizes the above manufacturer to affix the DCL Product Conformity Mark to the above-mentioned product(s).



for / ENGR. AMIN AHMED AMIN

Director, Dubai Central Laboratory Department

Dubai Municipality

Certificate No: TAC20080172
Valid Until: 09 June 2021



Current Issue Date: 10 June 2020 Original Issue Date: 10 June 2020



The attached Scope of Certification bearing the same Certificate No. forms an integral part of this Certificate.

This Certificate is an electronic document, subject to the Terms and Conditions of the Product Certification System and shall not be reproduced except in fu

DM-DCLD-F-IC-8003 REV





## CIVIL DEFENCE APPROVALS

#### ABU DHABI CIVIL DEFENCE CERTIFICATE





#### DUBAI CIVIL DEFENCE CERTIFICATE









## CIVIL DEFENCE APPROVALS

#### SHARJAH CIVIL DEFENCE CERTIFICATE



AJMAN CIVIL DEFENCE CERTIFICATE







## PASSION TO PROTECT

NAFFCO has the right to change specifications without prior notice.