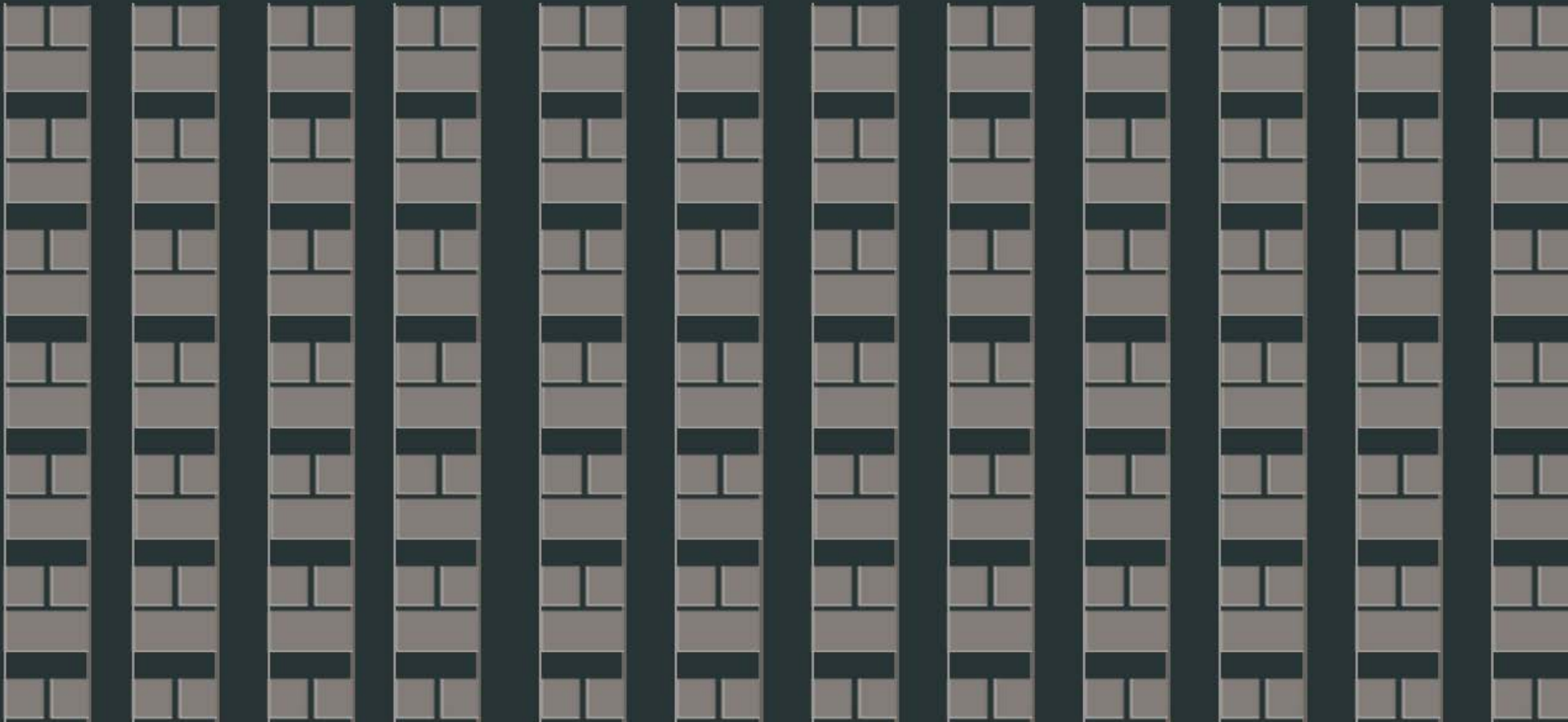


**ALUCOBOND®**

Why to use ALUCOBOND®?



# ALUCOBOND®

## ALUCOBOND Aluminium Composite Panels – A Successful Story

- 1968 Invention / Development of ALUCOBOND by Alusuisse and BASF.
- 1969 Start of production and commercialization of ALUCOBOND in Singen / Germany.
- 1978 Start-up of Alucobond SB1 (fire retardant material).
- 1979 Production start of ALUCOBOND in the US.
- 1989 Set up of a second ALUCOBOND production line in Singen / Germany.  
Development of double-belt press technology.
- 1992 Market Introduction of ALUCOBOND A2 (non-combustible).
- 1999 Production start of ALUCOBOND in China.
- 2000 Introduction of ALUCOBOND plus (fire retardant material).
- 2003 Production start of ALUCOBOND in Brazil.
- 2005 New ALUCOBOND Production Line in Singen for larger widths up to 2m.
- 2006 New Paint line for ALUCOBOND in China.
- 2007 Production start of ALUCOBOND in India.
- 2009 ALUCOBOND celebrates 40 years of excellence.

*ALUCOBOND is proven since more than 40 years in exterior applications in all climates around our globe.*

*Until today more than 140 million m2 sold and installed worldwide!*



# ALUCOBOND®

SR. NO.		ALUCOBOND PE	LOCAL BRAND ACP
1.	Aluminium Alloy	The aluminium alloy used is of marine grade 5xxx series which is highly corrosion resistant as compared to other grade aluminium alloy used in Architectural cladding purpose.	The aluminium alloy used is of 1XXX or 3XXX series which are less corrosion resistant compared to 5xxx series.
2.	LDPE Core	Only virgin LDPE based core material used which gives good surface flatness, bonding strength, ductility and easy fabrication.	Recycled LDPE core material used which causes uneven surface and delamination. Panel breaks while routing and bending process.
3.	Surface Coating	Coating consist of 2/3 layers i.e. base coat layer, colour pigment layer, PVDF clear coat layer 70% Kynaar 500 resin.	Coating consist of base coat layer, colour pigment layer and Kynaar 500 resin layer which is not always 70% as claimed.
		No colour fading issue reported till date. No visual shade variation.	Colour fading a major issue. Shade variation in colour.
4.	Manufacturing Process	Based on most modern E2 (Co-extrusion) technology. Provides maximum adhesion strength and best thickness control.	Based on single extrusion technology with adhesive films.
5.	Technical service	Provides extended on site technical service which includes cladding fixing system design support.	No on site technical service provided.

# ALUCOBOND®

SR. NO.		ALUCOBOND PE	LOCAL BRAND ACP
		Technical approvals of product and fixing system around the globe.	No such approvals.
6.	Panel size optimization	For every order optimization of panel size is done to reduce wastage and help client save cost.	No such support provided.
7.	Quality and functionality of product	Global manufacturing and research network helps ALUCOBOND to tap into advances in new materials and surfaces to keep ahead of its rivals in terms of creativity and versatility.	Local presence limits its advances.

# ALUCOBOND®

Common Problem #1:

## UNEVENNESS

Brand:

### OTHER COMPOSITE PANELS

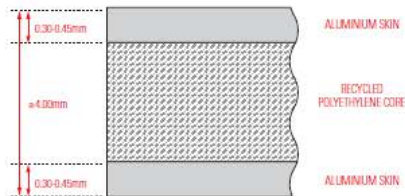
#### ROOT CAUSE

- 1 Insufficient panel strength due to thinner aluminium skins
- 2 Incorrect system design
- 3 Improper installation



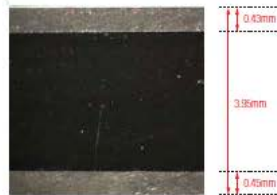
#### OTHER ALUMINIUM COMPOSITE PANEL

When factors such as support structure, panel size and wind or heat loss are similar, the susceptibility to material sag and warp is higher and more visible in many products which claim to be "equivalent" to ALUCOBOND®



#### MICROSCOPIC PICTURE

BRAND: "M"  
TESTED BY: MAEK CONSULTANT PTE LTD  
DATE: 14 NOVEMBER 2008



Solution:

## PERFECT FLATNESS

Brand:

### ALUCOBOND®

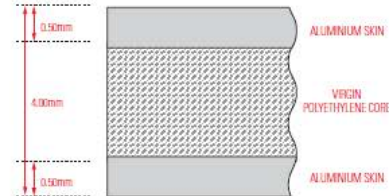


#### SOLUTION

- 1 Superior panel strength due to better material composition & aluminium skins thickness
- 2 Proven and patented\* fixing systems
- 3 Fabricator Certification Programme

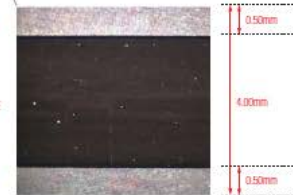


#### ALUCOBOND PANEL



#### MICROSCOPIC PICTURE

BRAND: ALUCOBOND  
TESTED BY: MAEK CONSULTANT PTE LTD  
DATE: 14 NOVEMBER 2008



# ALUCOBOND®

Common Problem #3:

## CRACKS AND DENTS

Brand:

## OTHER COMPOSITE PANELS

### ROOT CAUSE

- 1 Use of inferior aluminium alloy (eg 1xxx series)
- 2 Inconsistent panel thickness can result in weaker panels
- 3 Use of recycled polyethylene core materials
- 4 Use of incorrect fabrication equipment



### ALUMINIUM ALLOY

1xxx series aluminium alloy is an inferior metal commonly used in cooking pots and pans. Its lack of tensile strength may result in pressure cracks and dents when used in composite panels.



Solution:

## CONSISTENT CORNERS AND CURVES

Brand:

## ALUCOBOND®



### SOLUTION

- 1 Appropriate use of corrosion resistant aluminium alloy (eg 3xxx series)
- 2 Consistent product quality through state of the art manufacturing processes
- 3 Use of virgin polyethylene core materials
- 4 Complementary consultancy on proper fabrication equipment & techniques





# ALUCOBOND®

Common Problem #2:

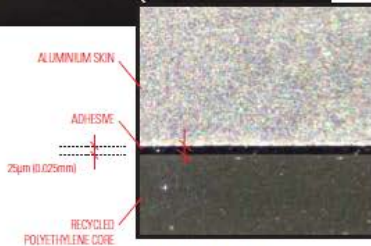
## DELAMINATION

Brand:

## OTHER COMPOSITE PANELS

### ROOT CAUSE

- 1 Inferior and / or insufficient adhesive between aluminium skins & core material
- 2 "Bleeding" of contaminants in recycled polyethylene core breaks down bond between skins and core
- 3 Poor quality control



MICROSCOPIC PICTURE

BRAND: A1  
TESTED BY: MAEK CONSULTANT PTE LTD  
DATE: 14 NOVEMBER 2008

Solution:

## PROVEN QUALITY SINCE 1969

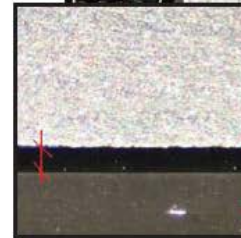
Brand:

## ALUCOBOND®



### SOLUTION

- 1 Up to 3 times thicker layer of premium adhesive
- 2 Virgin polyethylene core
- 3 International quality standards and manufacturing control



MICROSCOPIC PICTURE

BRAND: ALUCOBOND  
TESTED BY: MAEK CONSULTANT PTE LTD  
DATE: 14 NOVEMBER 2008



ALUMINIUM CENTRUM  
HOUTEN, NETHERLANDS

The headquarters of the Dutch aluminium industry, the Aluminium Centrum, is fully clad with ALUCOBOND® composite materials.

# ALUCOBOND®

Common Problem #4:

## COLOUR FADING, PEELING & INCONSISTENCIES

Brand:

## OTHER COMPOSITE PANELS

### ROOT CAUSE

- 1 Use of inferior paint system
- 2 Insufficient paint thickness
- 3 Poor quality control during painting process



### WEATHERING TEST RESULT PAINT QUALITY OF INFERIOR ALUMINIUM COMPOSITE PANEL



FLORIDA EXPOSURE: 45 SOUTH, EXPOSED SINCE 1987

Solution:

## LONG COLOUR DURABILITY

Brand:

## ALUCOBOND®



### SOLUTION

- 1 Proven quality of paint systems since 1969
- 2 Consistent coating thickness through stringent quality control
- 3 State of the art in-house coil coating facilities



### WEATHERING TEST RESULT ALUCOBOND QUALITY



FLORIDA EXPOSURE: 45 SOUTH, EXPOSED SINCE 1987





# ALUCOBOND®

Common Problem #5:

## STREAKING & STAINING

Brand:

## OTHER COMPOSITE PANELS

### ROOT CAUSE

- 1 Poor fixing system design
- 2 Poor quality and improper use of sealant
- 3 Poor fabrication and installation of panels



BUILDING CLEANED REGULARLY BUT STAINING CANNOT BE REMOVED



### STREAKING & STAINING

Poor application and quality of facade products can lead to unsightly stains and fungal growth.

FUNGAL GROWTH DUE TO IMPROPER SEALANT USE



Solution:

## LONG-TERM FAÇADE CLEANLINESS

Brand:

## ALUCOBOND®



### SOLUTION

- 1 Proven and patented\* open joint system design minimizes streaking and staining
- 2 Complementary consultancy on proper fabrication and installation techniques
- 3 ALUCOBOND® Fabricator Certification Programme



TEN YEAR OLD FAÇADE OF ALUCOBOND® OFFICES WITH A PROVEN SYSTEM



\*SYSTEMS PATENTED IN PEOPLE'S REPUBLIC OF CHINA



PROVEN AND PATENTED\* OPEN JOINT FIXING SYSTEM

# ALUCOBOND®

Common Problem #6:

## POORLY CONSTRUCTED FAÇADE

Brand:

OTHERS

### ROOT CAUSE

- 1 Poor fabrication & installation techniques
- 2 Incorrect fixing system design
- 3 Use of inferior cladding panels



MANUAL FABRICATION OF PANELS USING LOW SKILLED LABOUR, INFERIOR EQUIPMENT AND TECHNIQUES.



Solution:

## INNOVATIVE FAÇADE SOLUTIONS

Brand:

ALUCOBOND®



### SOLUTION

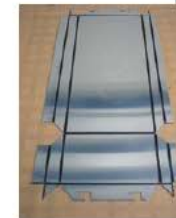
- 1 Complementary consultancy on proper fabrication and installation techniques
- 2 Proven and patented\* fixing system design. Supply of pre-routed panels using in-house state of the art manufacturing equipment
- 3 High quality cladding materials proven since 1969



GRAND INDONESIA  
JAKARTA, INDONESIA  
Approx 150,000m<sup>2</sup> of  
ALUCOBOND® composite materials.



SUPPLY OF IN-HOUSE  
PRE-ROUTED PANELS



\*SYSTEMS PATENTED IN PEOPLE'S  
REPUBLIC OF CHINA

# ALUCOBOND®

Common Problem #6:

## POORLY CONSTRUCTED FAÇADE

Brand:

OTHERS

### ROOT CAUSE

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MANUAL FABRICATION OF PANELS USING LOW SKILLED LABOUR, INFERIOR EQUIPMENT AND TECHNIQUES.



Solution:

## INNOVATIVE FAÇADE SOLUTIONS

Brand:

ALUCOBOND®



### SOLUTION

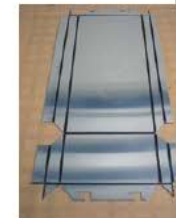
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