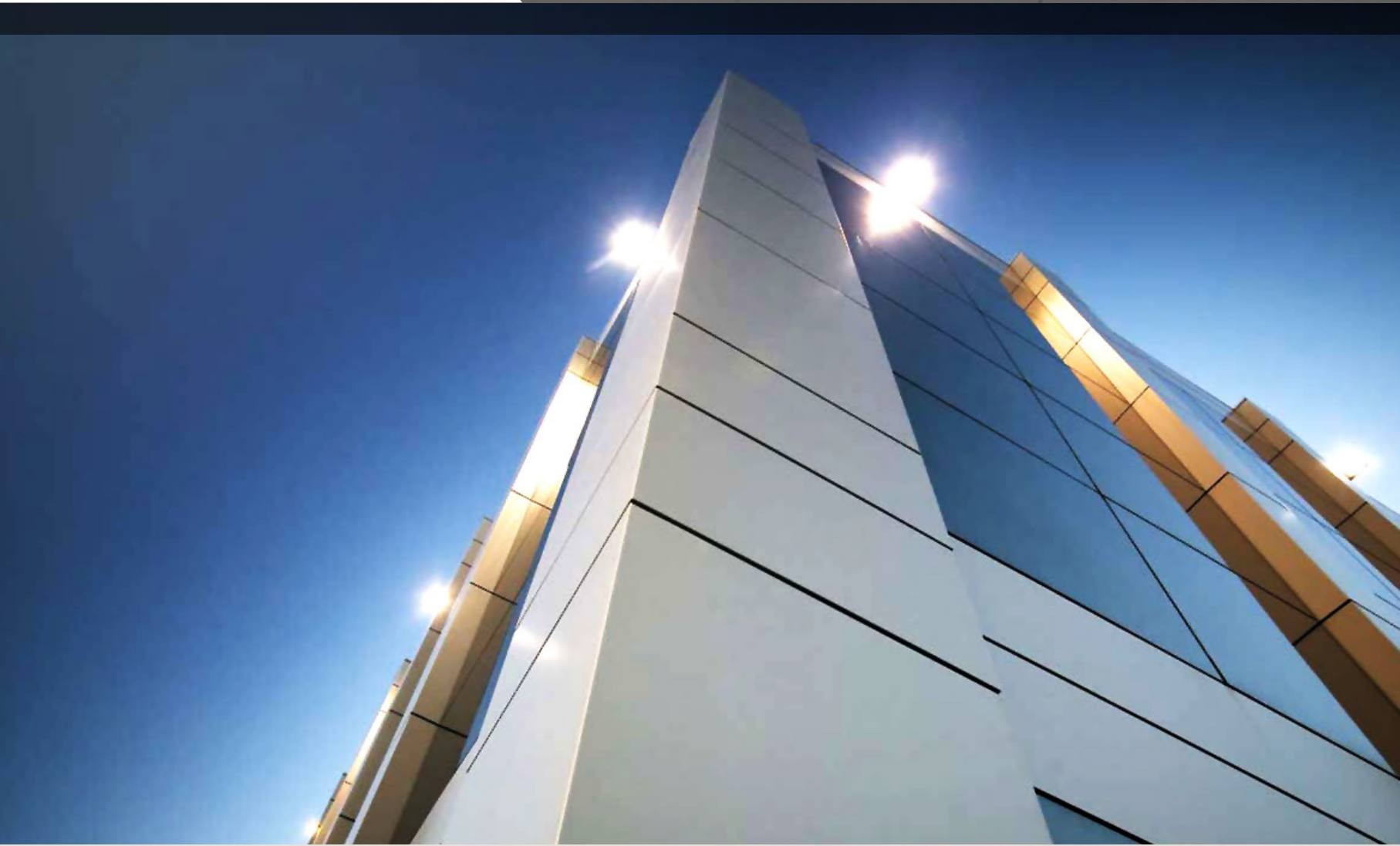


شركة واجهات للزجاج و الألمنيوم
Wajhat Glass & Aluminum Company



CLADDING



Architectural
Building-Envelope Experts





Contents

Company Introduction	5
Our Vision	6
WGA Cladding Division	7
WGA Cladding Product Range	
Metal Sheet Cladding	8
Aluminium Composite Panels (ACP)	9
Product Composition	10
Product Composition Drawing	
Composition of ACP	12
Mechanical Properties	14
Processing of ACP	17
Installation Design	19
Cladding Interior	20
Cladding Workflow	21
Cladding Machinery	22



Company Introduction

Wajhat Glass & Aluminium Factory (WGA) has been set up in Riyadh by the “Al Harbi Holding Group of Industries” as a leading building envelope specialist throughout the entire Gulf Region.

WGA is specifically organised to cater for all the most technically-advanced demands and requirements for the fabrication of solid and composite (ACP) cladding panels potentially for the most simple up to the most complex façade designs.

WGA's vertically integrated organizational structure, including comprehensive design , development and processing capabilities, fully supported by our Technical Partner, Messrs Gutmann of Germany, ensure that we are able to meet all of your most demanding cladding requirements.

Our professional craftsmen, supported by our superb factory-layout and modern equipment are capable of producing very high daily volumes of custom-designed unitized curtainwall panels, including composite cladding, to the highest quality standards.

WGA employs experienced Line Managers and QA/QC Supervisors to exercise maximum care and attention to accuracy and quality throughout the entire production process to ensure that our products are delivered strictly according to specification and in perfect condition.

WGA's range of aluminium cladding products represent versatility in design, durability performance, superb appearance and exceptional value for money to ensure the success of your project throughout it's entire life-cycle.

WGA has the right answers to all your cladding problems!

Our Vision

At Wajhat , our vision is to attain the highest position in our market , to be at least equal to , and to exceed the very best in fitness-for-purpose in the Field of Architectural Aluminium & Glass in Saudi Arabia and throughout the entire Gulf Region . As a result , we will strive to give highest-possible value to our Customers , to our Shareholders and to our Communities through working practices which are fully responsive to the complex requirements for sustainable manufacture and design to maximise environmental benefits in full compliance with current "Green Building" guidelines.

These are the true values at the heart of our Company from CEO to Factory Floor !

"Price is what you pay : Value is what you get !"

Warren Buffett

WGA Cladding Division

WGA's Cladding Division is a highly efficient, well-equipped operation employing the most modern and advanced CNC machinery including cutting and roll-bending for the fabrication of solid and composite aluminium cladding panels in a wide variety of finishes.

The Division is supported by WGA's Technical Partner, Hermann Gutmann AG, Germany, with seventy years of experience in the development and production of high performance composite aluminium cladding materials.

The Cladding Division is staffed by a strong Team of Operators, Supervisors and Management with considerable background experience in this Industry and is able to work to the highest international standards for quality and performance, and to meet the challenges of the most complex architectural designs.

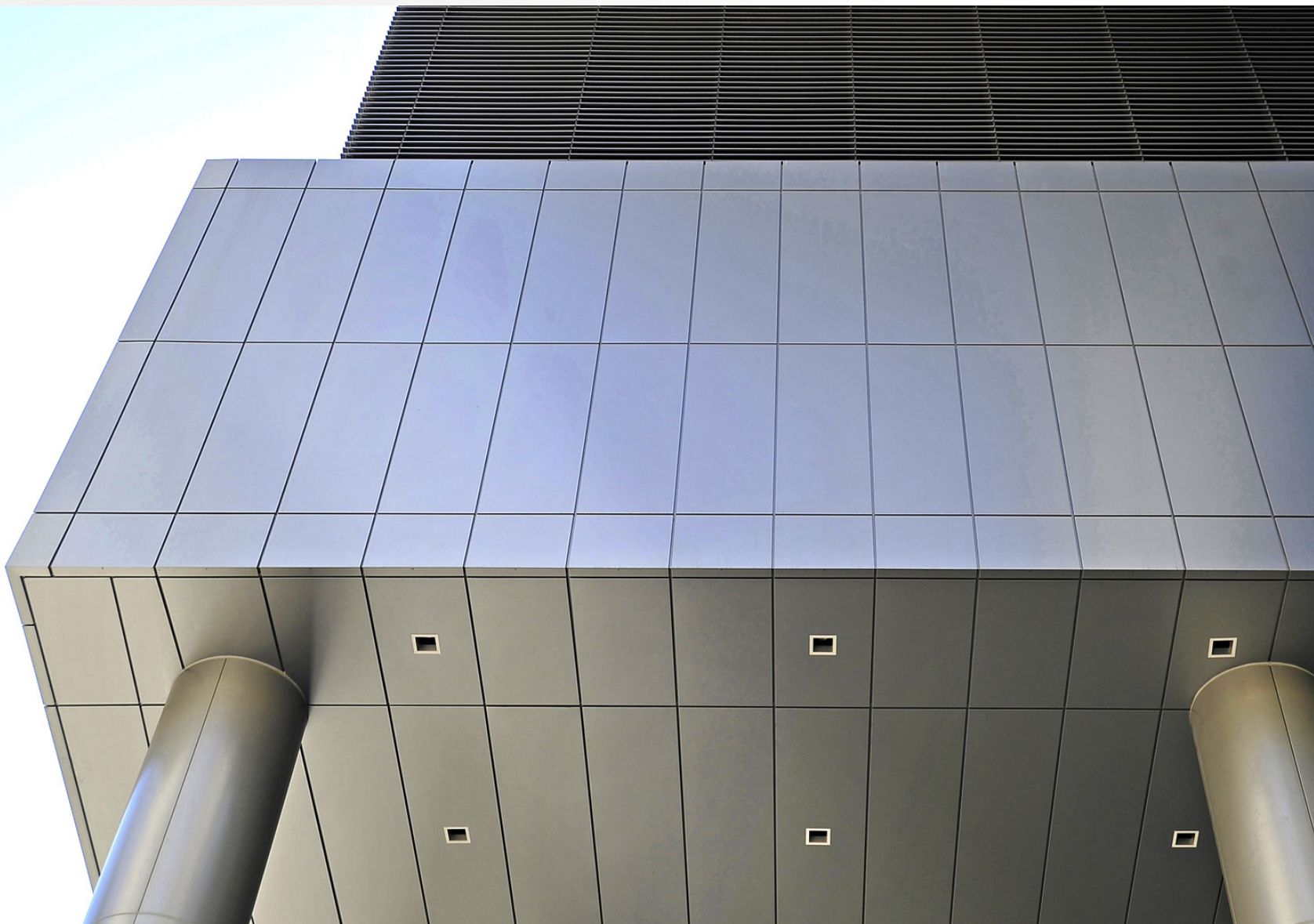


WGA Cladding Product Range

WGA source their requirements for aluminium and aluminium composite panels (ACP) from a number of reputable sources, including "Gutbond Style" from Hermann Gutmann GmbH in Germany.

Metal Sheet Cladding

Metal Sheet Cladding comprises solid (non-composite) aluminium sheet metal which can be anodized or polyester powder-coated, and is formed by pressing and folding to create a huge variety of cladding panels for columns, canopies, lift-surrounds, interior wall-lining and as back-pans for spandrel areas in curtain walls where the spandrel material is glass.



Aluminium Composite Panels (ACP)

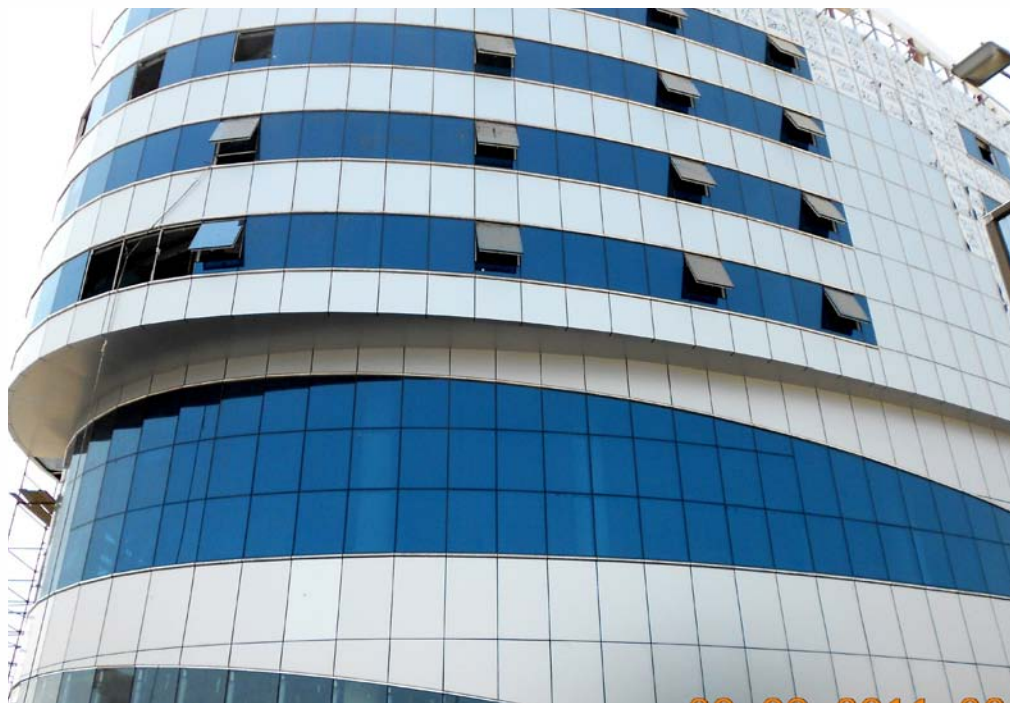
Aluminium Composite Panels (ACP) are a superior alternative to solid aluminium sheets and offer a superb combination of light weight, rigidity, flatness, attractive appearance and durability all with superb handling and processing attributes. Gutbond ACP is a cost-effective cladding product which allows you to create visually attractive and well-engineered design solutions for the in-filling of opaque areas of aluminium glazed facades.

Aluminium composite panels (ACP) are frequently known as “sandwich panels” due to their multi-layer construction. Typically, ACP comprise a layer of low-density thermoplastic expanded polyethylene, sandwiched between two sheets of 0.5mm thick aluminium.

ACP is available in 3.0, 4.0 & 5.0mm overall thicknesses and is also available in non Fire-Rated and full Fire-Rated grades. Surface finish is either PVDF-Based, or “Lumiflon”-based, fluorocarbon paint systems in an extensive range of solid standard colours, metallic colours and, in case of large projects, a range of custom colours. Gutbond Style composite aluminium panels guarantee you a brilliant and uniform surface finish as well as durable weather-proofing and UV stability. ACP can be supplied with an additional “service coating” on the rear face to provide additional protection from corrosion in areas with poor ventilation.

ACP is delivered to site, and installed, with a low-tack protection tape which is removed on hand-over of the works. Due to the typical folded edge-detail of the ACP panel, it is not easy to seal the external joints with pre-formed gaskets. Therefore, joint-sealing is generally done with structural silicone although open-joint systems with rain-screen drainage is also available from WGA.

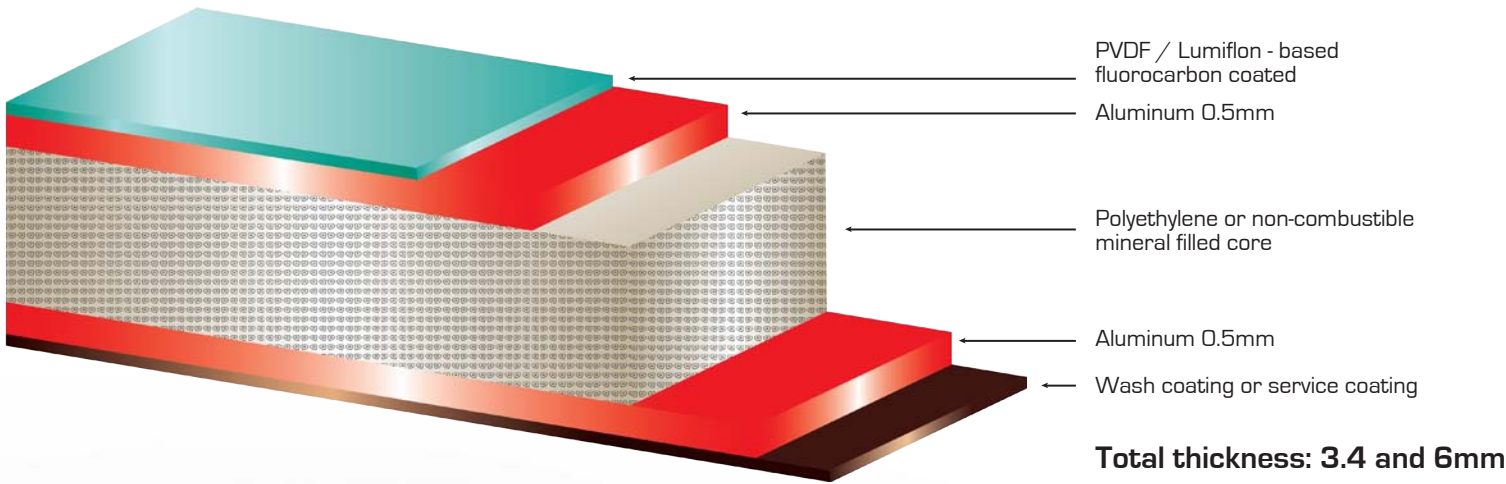


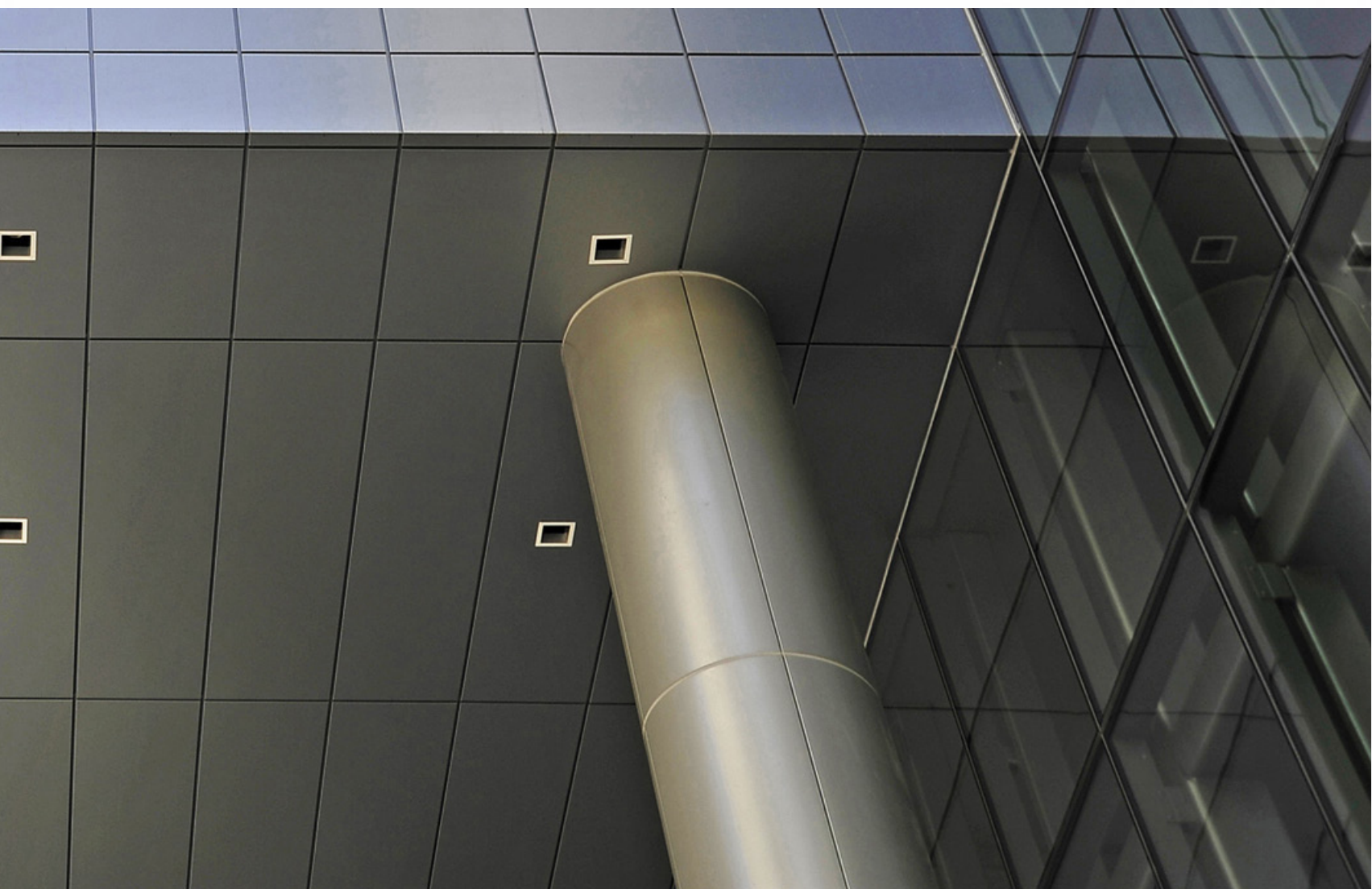
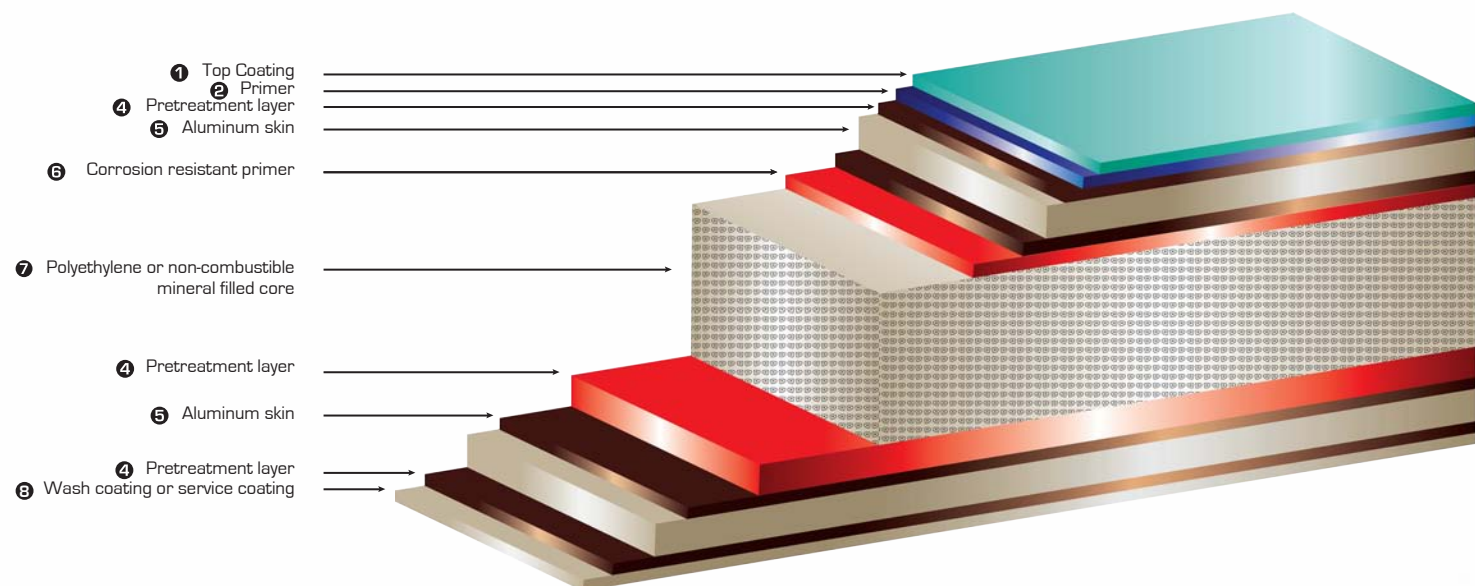


Product Composition Drawing

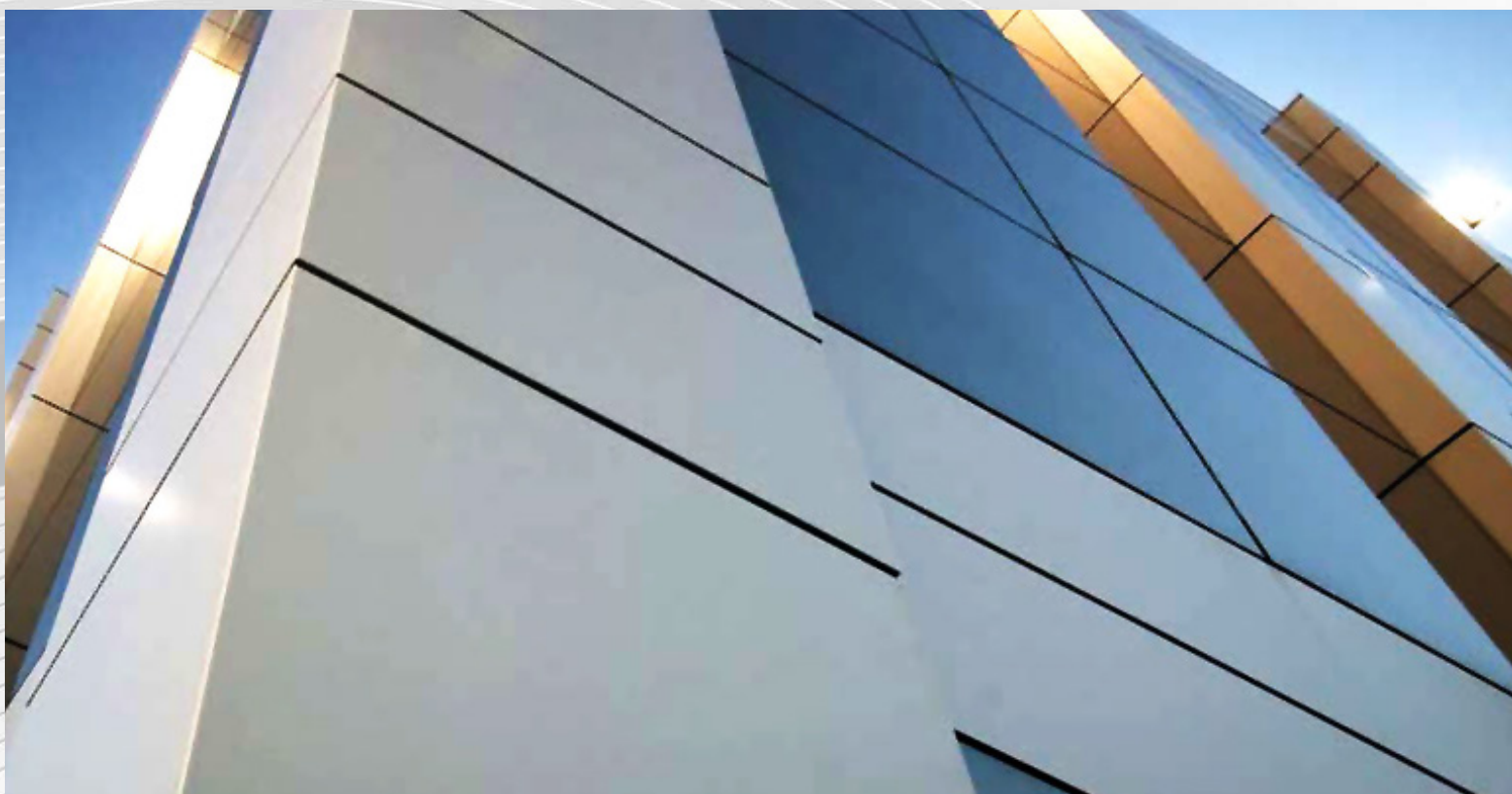
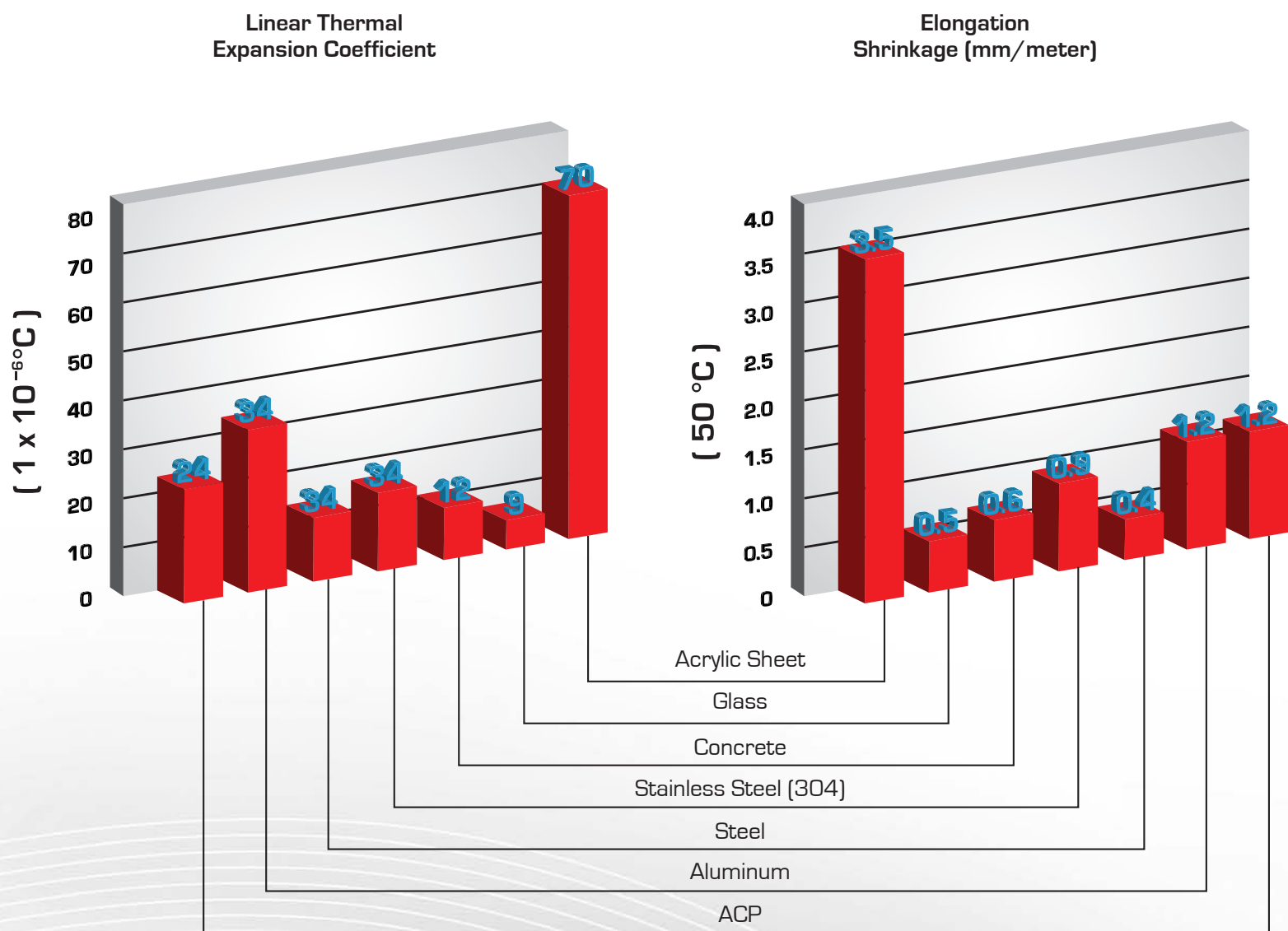
Composition of ACP

Cross-section of ACP





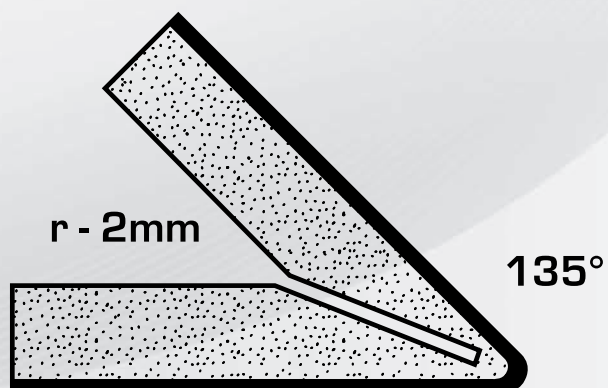
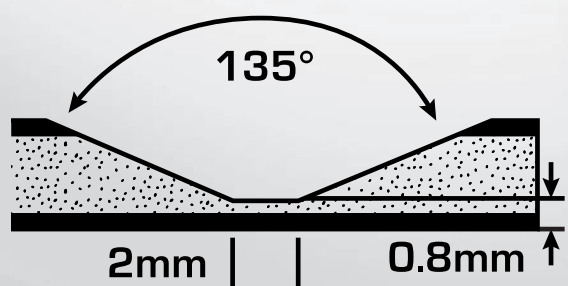
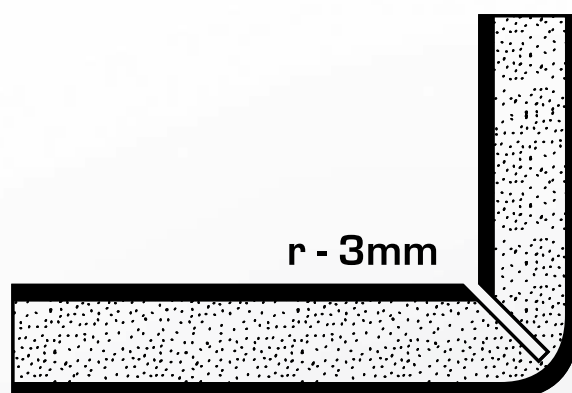
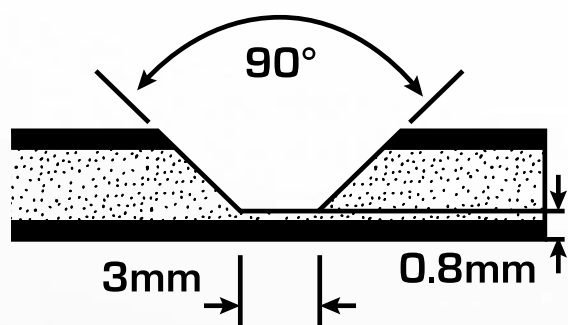
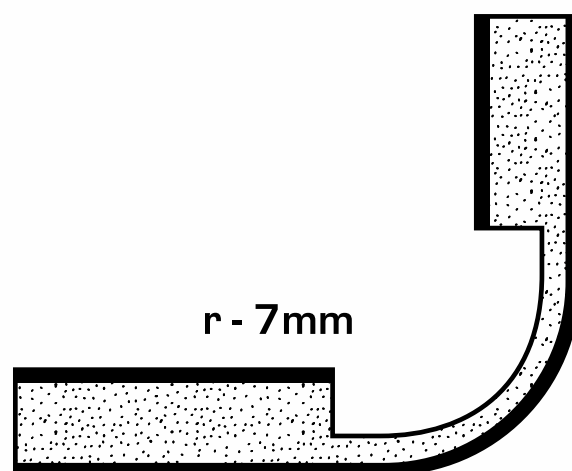
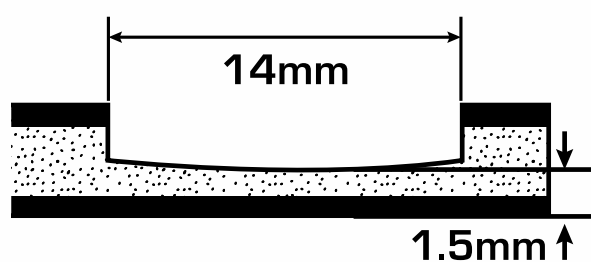
Mechanical Properties



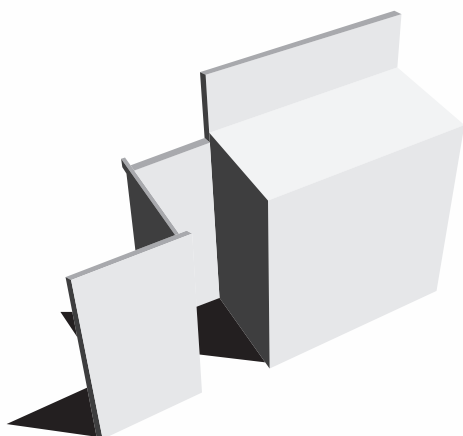
Panel Thickness	(mm)	3.0	4.0	5.0
1 Dimensions				
1.1 Aluminium Thickness	(mm)	0.5	0.5	0.5
1.2 GUTBOND weight	(kg/m ²)	4.5	5.5	7.3
1.3 Maximum Production Size				
Width	(mm)	1000	1250	1500
Max Length	(mm)		up to 6000	
1.4 Normal standard production size	(mm)		1000 x 3200 1250 x 3200 1500 x 3200	
2 Tolerances				
2.1 Panel Thickness	(mm)		+0 / -0.2	
2.2 Panel Width	(mm)		-0 / +2.0	
2.3 Panel Length	(mm)		-0 / +4.0	
2.4 Diagonal Difference	(mm)		max 3.0	
3 Physical Data				
3.1 Alloy			EN AW 3005H 42	
3.2 Tensile Strength (Rm)	(N/mm ²)		140 - 192	
3.3 Yield Strength	(N/mm ²)		95	
3.4 Elongation (A50)	(%)		< 5	
3.5 Module of Elasticity	(N/mm ²)		70.000	
3.6 Core	Low Density Polyethylene			
3.7 Density	(g/cm ³)		0.92	
4 Temperature Behaviour				
4.1 Temperature range	(deg C)		-50 + 80	
4.2 Coefficient of Linear Expansion			2.40 mm/m For a temp diff of 100 Centigrade Degrees	
5 Surface paint characteristics				
5.1 Visible surface			PVDF or LUMIFLON coating system	
5.2 Gloss	(%)		25 - 40	
5.3 Coating thickness	(qm)		20 - 30	
6 Fire Classification				
6.1 Germany		DIN 4102 part 1	Class B2	
6.2 Germany		DIN 4102 part 1	Class B1	
7 Technical Properties				
7.1 Section modulus	(cm ³ /m)	1.25	1.75	2.75
7.3 Rigidity E x J	(KN/m ² /m)	0.125	0.24	0.59
8 Sound Insulation				
8.1 Average airborne sound transmission loss	R (db)	25	26	27
8.2 Vibration dampening factor	(db)	0.0072	0.0087	0.0138



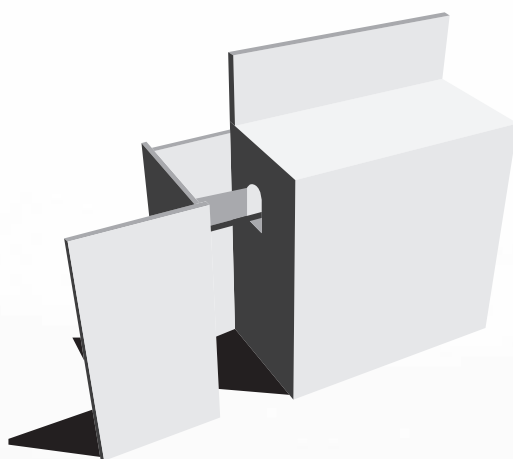
Folding and forming of corners by hand milling a groove on the reverse side



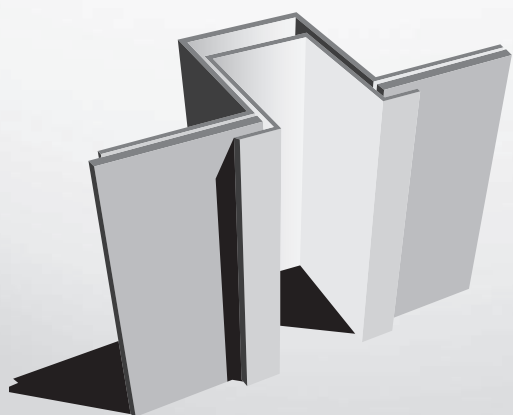




Bolt and rivet version



Cassette version



Clamping version

Cutting

With a fret or band saw equipment. Shearing with vertical shearing.

Punching

Hydraulically or manually

Bending

Possible with a normal hand-bending press,
Min bending radius $r = 10 \times T$

Drilling

Use normal drilling machinery for aluminium

Gluing

An excellent bond is achieved with special adhesives or elastomeric polyurethane

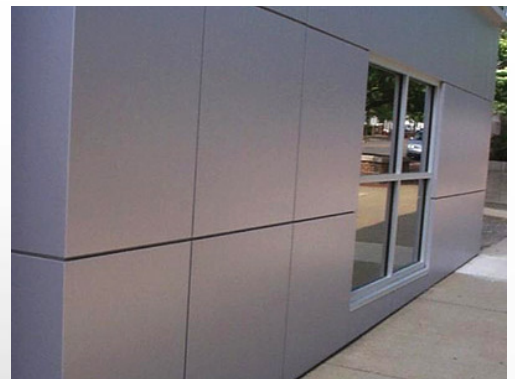
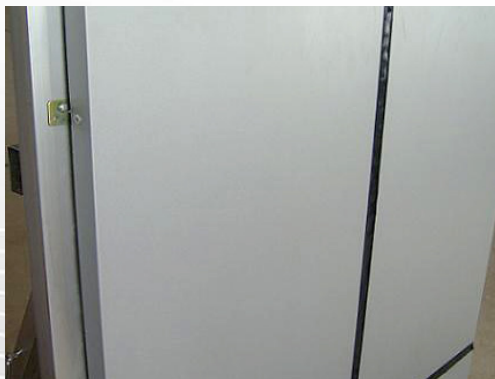
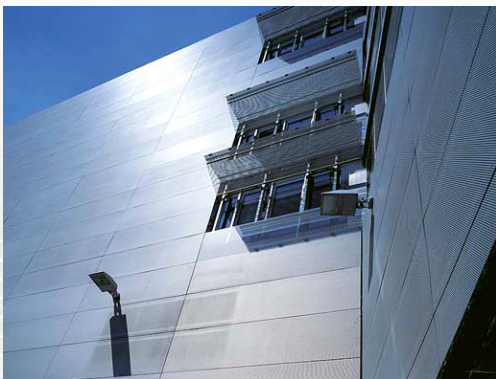
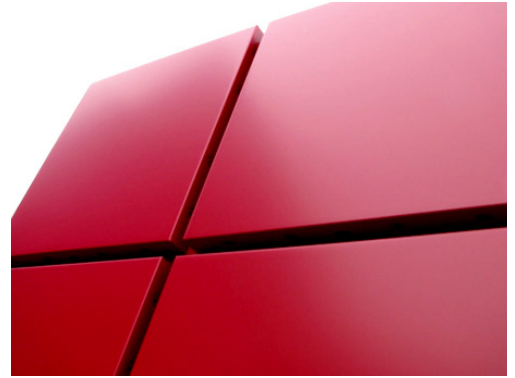
Screwing

Use blind rivets or s/steel screws

Forming

Folding and forming by hand after milling of Groove on the reverse side .

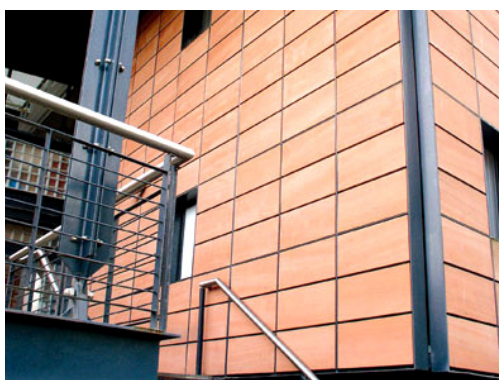
Cladding Photo Gallery



Cladding Photo Gallery



Cladding Photo Gallery



www.wajhat.com.sa

Contact Details:

P.O. Box 2553, Riyadh 11476 Saudi Arabia

Tel.: +966 1 4405900

Fax: +966 1 4405901

