



www.feitengacp.com

FEITENG LYRA

Start
Your Creative Journey



ZHANGJIAGANG FEITENG NEW COMPOSITE MATERIALS CO., LTD.

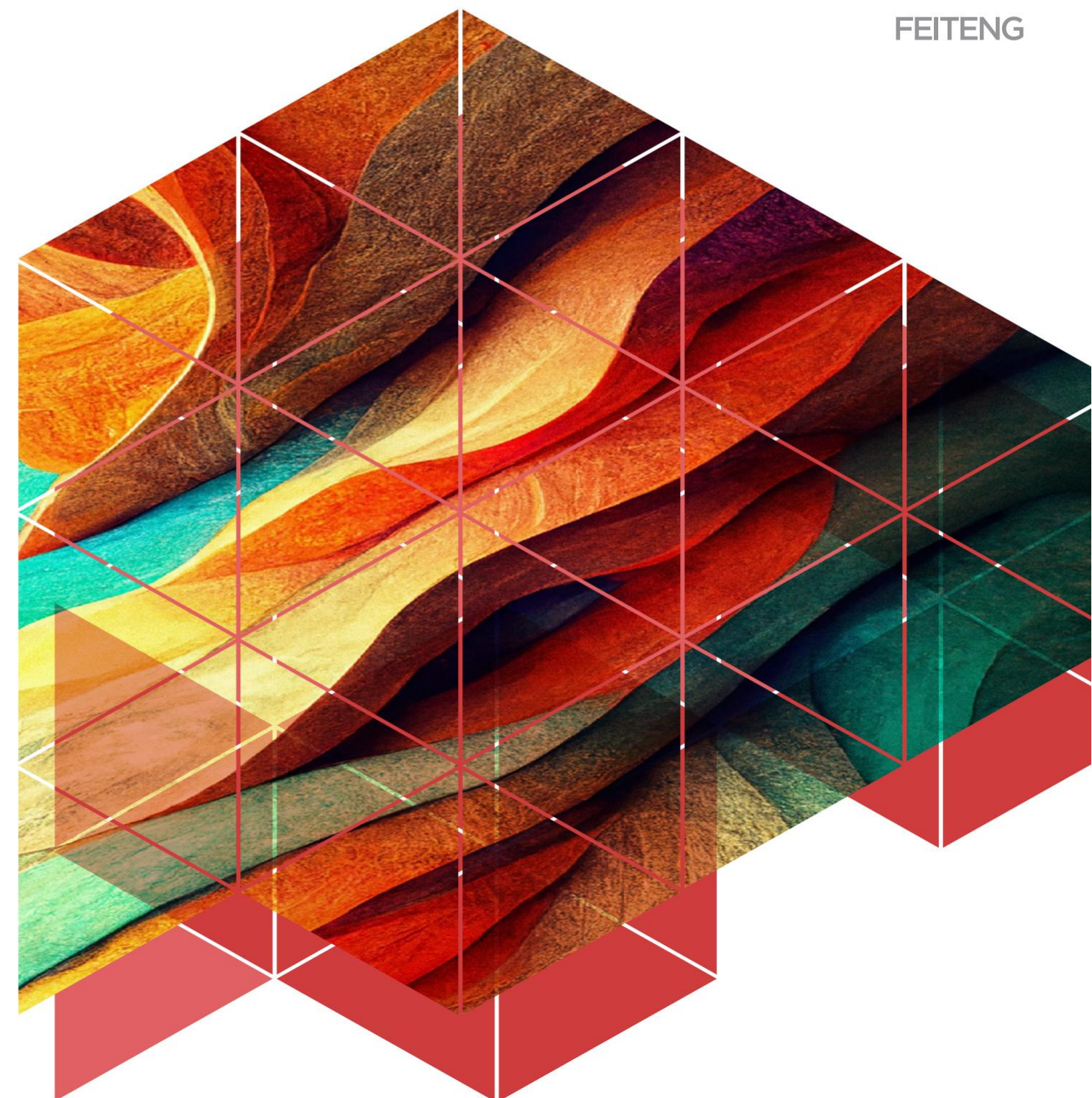
77 Huada Rd, Environmental & New Material Industry Park,
Bonded Port Zone, Zhangjiagang City, Jiangsu China.

Tel: 0512-58770888 Fax: 0512-58786525

E-mail: info@feitengacp.com

www.feitengacp.com

The images and text in this brochure are the property of Zhangjiagang Feiteng Composite New Materials Co., Ltd. and may not be reproduced without permission. Any potential changes to the data in this brochure will not be separately notified.



Start Your Creative Journey



Contents

Introduction	01
Technical Characteristics	03
FEITENG Signage	05
Colors & Finishes	07
One-stop Solution	09
Product Range	10
Attestation	11
Applications	13
· UV Printing	13
· Car Dealerships	15
· Commercial Chain	17
· Gas Station	19
· Guide Sign/Traffic Sign	21
· Business Activity DESIGN	23
Storage & Handling	25
Processing Method	26

FEITENG LYRA Introduction

Founded in 1994, FEITENG is a one-stop solution provider specializing in the R&D, design, manufacturing, processing and sales of metal composite materials for Signage, Visual Communication, Graphics.



FEITENG LYRA is made by two aluminum layers to a solid polyethylene core layer through high temperature. It can be freely cut and formed according to design requirements, and can present a variety of different shapes and structures to meet the aesthetic requirements of different scenes and needs.

The surface of FEITENG LYRA can be processed in a variety of ways, such as spraying, printing, film lamination, etc., which can present rich and colorful colors and pattern effects, providing customers with unlimited possibilities of visual and material combinations, thereby enhancing brand appeal and recognition.

In addition, Feiteng is committed to maximizing the life of our products by complying with ISO standards.

Feiteng is committed to bringing environmental, social and economic benefits throughout the entire life cycle from raw material extraction to product retirement. In the production process of Feiteng metal composite panels, we are committed to reducing energy and water consumption, improving productivity and reducing waste.

Through flexible modeling and diverse surface treatments, Feiteng provides you with a one-stop solution for more creativity and personalization, meets people's pursuit of beauty, and expands the aesthetic application space in the field of logos and signs.



FEITENG LYRA

Technical Characteristics

FEITENG LYRA is made of two smooth aluminum skins (Elite (less than 0.20mm aluminum thickness), Pro (0.20mm), Premium (0.30mm)) compisited with a solid polyethylene core layer by high temperature.

The Special Coating System

Roller coated according to ECCA - Standards	Constantly high quality of colour as well as colour consistency	Very even, flat surfaces	Perfect printing properties	No heavy metals in the lacquer system	Conforms to RoHS, REACH
---	---	--------------------------	-----------------------------	---------------------------------------	-------------------------

The product features and advantages of FEITENG LYRA that have been verified and tested in the laboratory include:



Wide range of colors & finishes



Ability to be perforated



Ease of fabrication



Durability



Formability



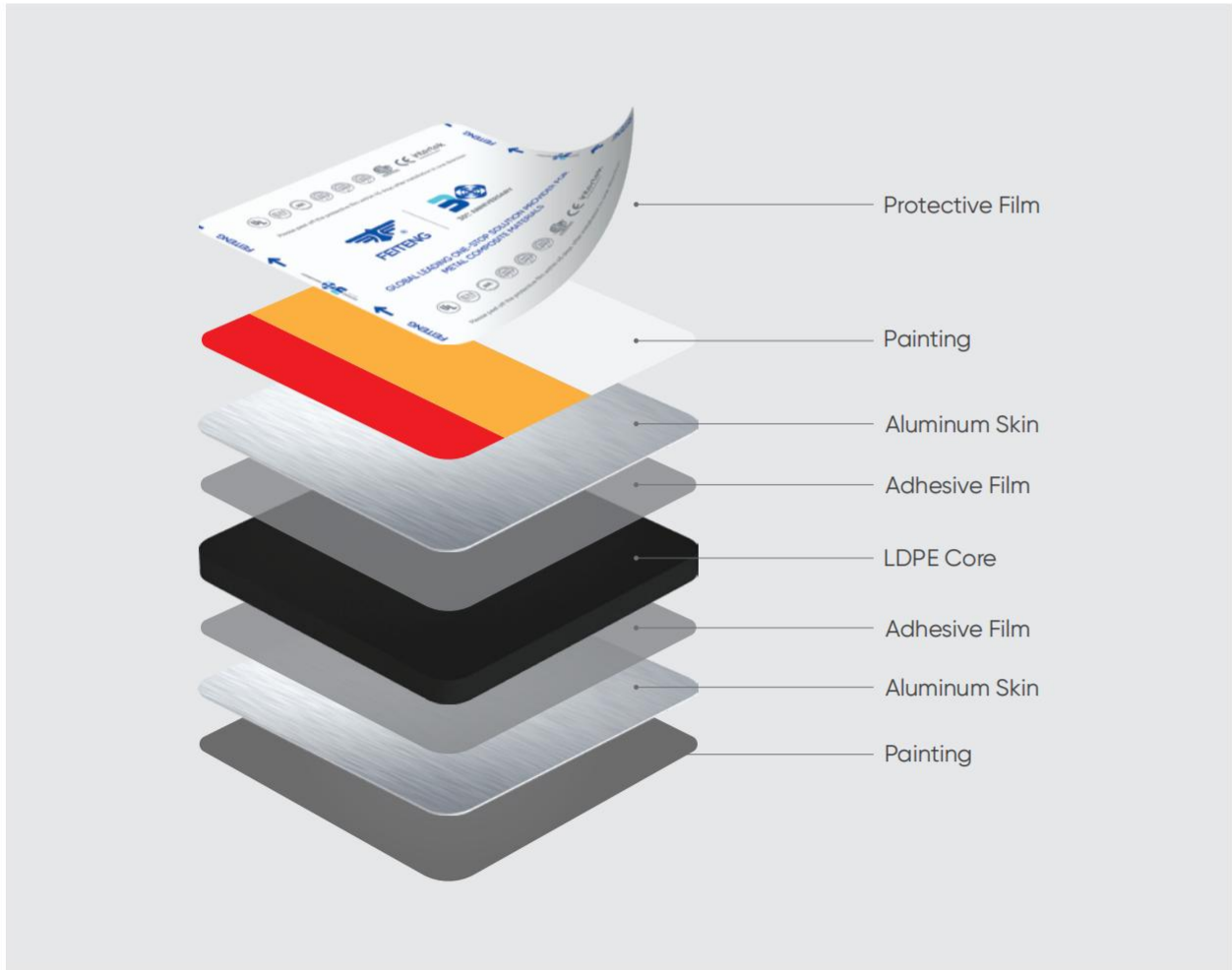
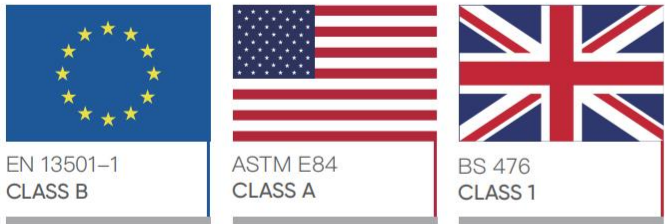
Flatness & Rigidity



FEITENG LYRA

FEITENG Signage

FEITENG LYRA is often used in brand stores, supermarkets, exhibition stands, gas stations and other outdoor spaces due to its superior flatness, easy processing and weather resistance. Meet fire rating requirements:



Performance index

Item	units	Elite				Pro				Premium			
		Alu. Thickness: <0.2mm				Alu. Thickness: 0.2mm				Alu. Thickness: 0.3mm			
		2	3	4	6	2	3	4	6	2	3	4	6
Alu thickness tolerance	mm	±0.02				±0.02				±0.02			
Alu grade		1100				1100				1100, 3003, 5005			

Composite Panel Size

Panel weight	Kg/m²	≥2.87	≥4.02	≥5.17	≥7.47	≥2.93	≥4.08	≥5.23	≥7.53	≥3.25	≥4.40	≥5.55	≥7.85
Panel length tolerance	mm	±3				±3				±3			
Panel width tolerance	mm	±2				±2				±2			
Panel thickness tolerance	mm	±0.2				±0.2				±0.2			

Mechanical Property

Bending strength	MPa	≥40	/	≥50	/	≥50
Penetration resistance	MPa	≥2	/	≥3	/	≥5
Shear strength	MPa	≥8	/	≥12	/	≥12
Tensile strength of Alu	MPa	≥125	≥145		≥145	
Alu Proof stress(0.2%)	MPa	≥115	≥115		≥115	
The elongation of Alu	%	≥1	≥2		≥2	
Liner thermal expansion	mm/m	≤2.4(100℃) Aluminum product				
	℃-1	≤0.0004 Composite panel				
Thermal deformation temperature	℃	≥85				
180° peel strength	N/mm	≥3	≥4		≥5	
Heat resistance water	/	No change				

Composite Panel Core

Core density		1.15~1.20											
--------------	--	-----------	--	--	--	--	--	--	--	--	--	--	--

Coating

Coating thickness	µm	Single avg≥16 min≥14; Double avg≥25 min≥23; Third avg≥32 min≥30											
Glossiness	%	≥25											
Coating hardness	/	≥HB											

Acoustic Performance

Sound absorption factor	α	0.05											
Sound insulation factor	dB	23	25	26	27	23	25	26	27	23	25	26	27

Thermal Performance

Heat transition coefficient	W/mK	5.98	5.65	5.54	5.34	5.98	5.65	5.54	5.34	5.98	5.65	5.54	5.34
-----------------------------	------	------	------	------	------	------	------	------	------	------	------	------	------

FEITENG LYRA

Colors & Finishes

FEITENG has the world's most comprehensive metal composite panel products - nine Colors & Finishes series.

Our trend-forward palette represents an ongoing development of colors and finishes curated to foster creativity and ingenuity.

Our colour span ranges from basic to trendy, Print white, metallic, colour nuances of the whole colour palette. Due to continuous developments we complement the range constantly and offer short term availabilities even for individual complementary colours.

To request samples, please contact info@feitengacp.com.



VANMSI Film Laminated Panel

VANMSI applies innovative architectural decorative film technology to various projects in the decoration industry to better meet the market's growing demand for high quality, and further provide new high-tech, high-quality surface materials for architectural decoration and brand stores.



Personalized Needs



If you require a custom color for your next project, our technicians will work hard to develop the color you want. Due to the different inks and pigments used in different industries and application methods, exact matches are not possible. The colors produced by the matching method, especially metallic colors, may not be the same as the colors produced by the spraying method.

To ensure that we match the style you need correctly, we need you to provide:

- The minimum sample size is 1 inch "x 1 inch", or
- Pantone®, RAL, NCS or paint code reference

Please send us the color sample along with your name, company name, address, phone number, and email, as well as the project name and location,

Zhangjiagang Feiteng New Composite Materials Co.,Ltd.

Huada Road 77, Jingang Town, Zhangjiagang City, Jiangsu Province, China

Feiteng Composites (Europe) B.V.

Industriestraat 4, 5804 CK Venray, The Netherlands

FEITENG LYRA

One-stop Solution

From strategy to design, from materials to intelligent manufacturing, from project management to construction, from service to maintenance, Feiteng one-stop service industry chain helps customers to create a professional international brand image.



Project Creativity



Material Manufacturing



UV Printing Test



Deep processing and forming



Logistics Distribution



Installation Guide



After-sales Service



FEITENG COMPOSITE PANEL

Product Range

Relying on its strong integrated manufacturing capabilities, FEITENG LYRA has become the designated supplier of brand logo materials for world-renowned companies such as Shell, Total, Apple, KFC, Ford, IKEA, Bosch, and Tesla.

The printing substrate in FEITENG LYRA has become a certified customer of PPG A-level, a US coatings company, a strategic partner of Akzo Nobel, and a designated metal composite panel supplier for Fuji Acuity Prime Hybrid printers. The company's patented latex ink printing special panel has been designated as a global environmentally friendly printer substrate supplier by HP Latex R series.



Thickness (mm)	2	3	4	5	6	8
Formats (B×L)						
1000×2440mm	●	●	●	●	●	●
1000×3050mm	●	●	●	●	●	●
1000×4050mm	●	●	●	●	●	●
1250×2440mm	●	●	●	●	●	●
1250×3050mm	●	●	●	●	●	●
1250×4050mm	●	●	●	●	●	●
1500×2440mm	●	●	●	●	●	●
1500×3050mm	●	●	●	●	●	●
1500×4050mm	●	●	●	●	●	●
1575×2440mm	●	●	●	●	●	●
1575×3050mm	●	●	●	●	●	●
1575×4050mm	●	●	●	●	●	●
1750×2440mm	●	●	●	●		
1750×3050mm	●	●	●	●		
1750×4050mm	●	●	●	●		
2000×2440mm	●	●	●	●		
2000×3050mm	●	●	●	●		
2000×4050mm	●	●	●	●		

For other sizes, please contact info@feitengacp.com
* The above information is the standard size when shipping from the factory, which can be cut into the specifications you need according to customer needs

FEITENG LYRA

Attestation

Feiteng has inherited its consistent craftsmanship quality, passed 28 internal tests and strict tests and quality standards of external laboratories, and obtained audits and certifications from most countries and regions in the world. In Feiteng's view, only by constantly pursuing excellence can we provide customers with better products and services, which is also the goal we have always adhered to.

EU CE certification	US UL certification	WCA certification
		
TUV certification	SGS certification	ISO certification
		
ICC certification	Reach certification	RoHS certification
		

EPD

Feiteng has been certified by EPD based on the ISO 14025 standard of the international standard certification body. Presenting customers with the possible impact of product use on the environment and construction, increasing transparency on environmental protection, and its purpose is to encourage the use of products that provide life cycle information and have a more beneficial social and economic impact on our planet.

Among other things, they contain additional information about use (for example, the release of volatile organic compounds (VOCs) during use) and details about durability and recoverability. The document thus provides a proof of sustainability for the building's ecology.

When you choose to use Feiteng products, you are also choosing to minimize the life cycle impact, including:

-  More efficient manufacturing, less waste of resources
-  100% recyclable
-  Use of heat recovery and reuse in the production process
-  50+ YEARS Rugged and durable, can be used for up to 50 years
-  Negligible VOCs

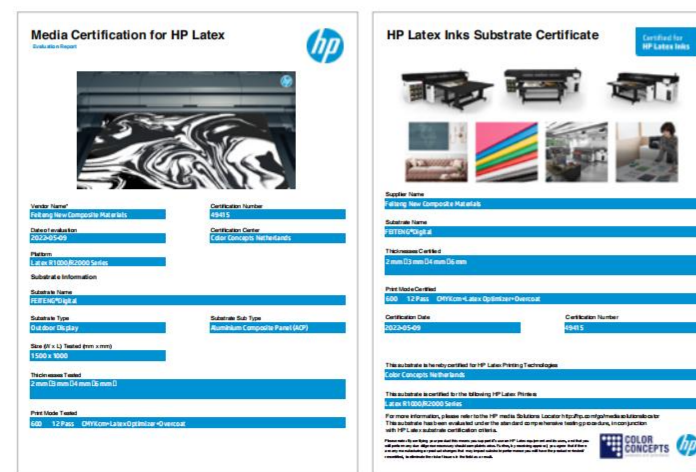


FEITENG LYRA Applications

UV Printing

FEITENG LYRA Panel (digital white) comes with an optimized coating system for digital printing showing excellent ink adhesion which allows advanced printing speed. The higher performance means higher output and lower costs.

FEITENG LYRA Panel is specifically developed for the digital printing industry, the panel surface is very flat and homogeneously smooth, provides outstanding ink adhesion and is printable on all standard flatbed printers e.g., Fujifilm Inca Onset Series, Efi Pro Series, HP Latex Series. We recommend using UV curable ink or solvent ink, these ink types are generally able to achieve better adhesion on the surface of Feiteng Digital Panel and have better durability for outdoor environments and other special applications.



Applicable to Flat Application

- Indoor & outdoor signage
- Hoardings
- Photo mounting & laminating

FEITENG LYRA Panel is resistant to temperatures ranging from +80°C to -50°C, as well as resistant to water and UV. This means that it remains unaffected by yellowing or distortion caused by UV lamps. As a result, digitally printed signs can be used for the long term while maintaining their color quality even when placed outdoors.

Regarding the pre-treatment, we recommend wearing gloves to avoid fingerprints on the surface, are the easiest solution. Various processing techniques such as routing, folding, or bending are possible with Feiteng Digital Panel, even after printing with solvent based inks.

The creative potential of Feiteng Digital Panel becomes obvious when processing the material either it is small sizes, large formats and even 2000mm widths.



FEITENG LYRA Applications



Car Dealerships

Presenting brand value and spreading brand power

FEITENG LYRA has many advantages in the application of car dealerships, including easy installation, environmental protection, corrosion resistance, scratch resistance and antibacterial properties. These characteristics make FEITENG LYRA an ideal choice for car 4S shop interior decoration and brand logo.

Excellent Performance

Excellent Weathering Characteristics, Guarantees Upon Request	UV Stability and Colour Consistency In Sunlight	Resistant to Temperatures up to 80°C	Constantly High Quality and Flatness of the Surface	Protective Film on Both Sides	Available in a Wide Range of Colours and Structured Surfaces
---	---	--------------------------------------	---	-------------------------------	--



Colors & Finishes Changes

Car Dealerships Signboards	Car Dealerships Curtain Wall	Car Dealerships Interior Decoration
· Standard Series	· Standard Series · Brushed Mirror Series · Anodized Look Series	· Wooden Stone Series · Vanmsi Series · Texture Velvet Series

FEITENG LYRA

Applications

Commercial Chain

Following the principles of "consistency" and "intuitiveness", designers can create a more intuitive, fashionable and convenient store image.

FEITENG LYRA is a one-stop solution: rich color options give designers countless possibilities to create a diverse and highly recognizable store image. The unique material properties of FEITENG LYRA can be processed into various shapes required, allowing designers to design a store structure with design orientation.

Excellent Performance

Excellent Weathering Characteristics, Guarantees Upon Request	UV Stability and Colour Consistency In Sunlight	Resistant to Temperatures up to 80°C	Constantly High Quality and Flatness of the Surface	Protective Film on Both Sides	Available in a Wide Range of Colours and Structured Surfaces
---	---	--------------------------------------	---	-------------------------------	--



Colors & Finishes Changes

Store Signs	Store Interior Decoration
· Standard Series	· Wooden Stone Series
· Spectra Series	· Vanmsi Series

FEITENG LYRA
Applications



Gas Station

Eye Catching, Compared with other materials like full metal sheets, FEITENG is extremely lightweight which not only saves manpower when handling but also transport costs. FEITENG is rigid and dimensionally stable – also when used for large format applications. Its trouble-free on-site processing makes FEITENG LYRA the first choice for any creative 3D solution.

Excellent Performance

Consistent colour aging	Constancy of the surface: consistent layer thickness of the paint	Resistant to temperature changes: from -50°Cup to +80°C	In comparison to plastics (acrylic, glass, PVC): low thermal expansion	In comparison to full aluminium sheets: same coefficient of thermal expansion	Cuts easily
-------------------------	---	---	--	---	-------------



Colors & Finishes Changes

Gas Station Signboards	Gas Station Column Wrapping	Gas Station Convenience Stores	Gas Station Canopy
· Standard Series	· Standard Series	· Standard Series · Wooden Stone Series · Vanmsi Series	· Standard Series

FEITENG LYRA Applications

Guide Sign/Traffic Sign

Weatherproof, UV-resistant, durable and lightweight are the first choice for outdoor signs. The nine series of colors of FEITENG meet the unique design requirements of designers and give visual-oriented applications a unique charm.



Outdoors, FEITENG LYRA signs are everywhere, and their advantages are:

Lightweight & Beautiful



FEITENG LYRA is light in weight, easy to install, and has a beautiful appearance. It can be customized according to different design requirements.

Durable & Anti-corrosion



FEITENG LYRA has excellent anti-corrosion performance, is not easily affected by moisture and corrosion, and has a long service life.

Wind & Rain Resistant



FEITENG LYRA is made of two smooth aluminum skins (Elite - less than 0.20mm aluminum thickness), Pro - 0.20mm, Premium - 0.30mm) composited with a solid polyethylene core layer by high temperature with high strength and wind and rain resistance, especially suitable for various outdoor environments.



Colors & Finishes Changes

Traffic Guidance System

- Standard Series
- Brushed Mirror Series
- Anodized Look Series

Airport Guidance System

- Standard Series
- Brushed Mirror Series
- Anodized Look Series
- Diffuse Reflection Series
- Wood Stone Series
- Vanmsi Series

Mall Guidance System

- Standard Series
- Brushed Mirror Series
- Wooden Stone Series
- Vanmsi Series

Architectural Guidance System

- Standard Series
- Brushed Mirror Series
- Anodized Series
- Wooden Stone Series

FEITENG LYRA Applications



Business Activity DESIGN

Following the concept of sustainable development, the reusable FEITENG LYRA is the first choice for setting up commercial activities.



The surface roller coating process of FEITENG LYRA is to bake at a constant temperature, apply pressure, and the panel surface is evenly stressed. The paint film thickness error is less than 0.5 microns. The thickness of the entire coating film layer is uniform, the surface is smooth, and there are no micropores or pollution. Floating dust and other pollutants enhance the visual effect of the event site, and also enhance the practicality and durability of the site. Its excellent performance ensures the stability and safety of the event layout and atmosphere layout during the event.

FEITENG LYRA can create a variety of shapes through simple processing. Due to its maximum width of 2050mm, FEITENG X can be used in a large area of the exhibition hall. We are happy to help you implement your ideas. We have the world's advanced material

processing equipment and experienced processing personnel, and can also provide you with installation and processing suggestions.

FEITENG LYRA is a lightweight material that can be used for on-site processing and installation, or prefabricated and then transported. It can be cut, wired, folded, and bent using simple tools, and can be fixed with screws and rivets. It is also very easy to temporarily modify some special shapes.

In addition to its unparalleled advantages in surface quality, flatness and ideal processing characteristics, FEITENG LYRA can also be reused. After the event, it can be disassembled according to the correct process and used again in the next event.

FEITENG has excellent flatness and easy processing performance, and can even be used for building curtain walls. The highest fire retardant level reaches A2, meeting the European and American B1 fire protection standards.

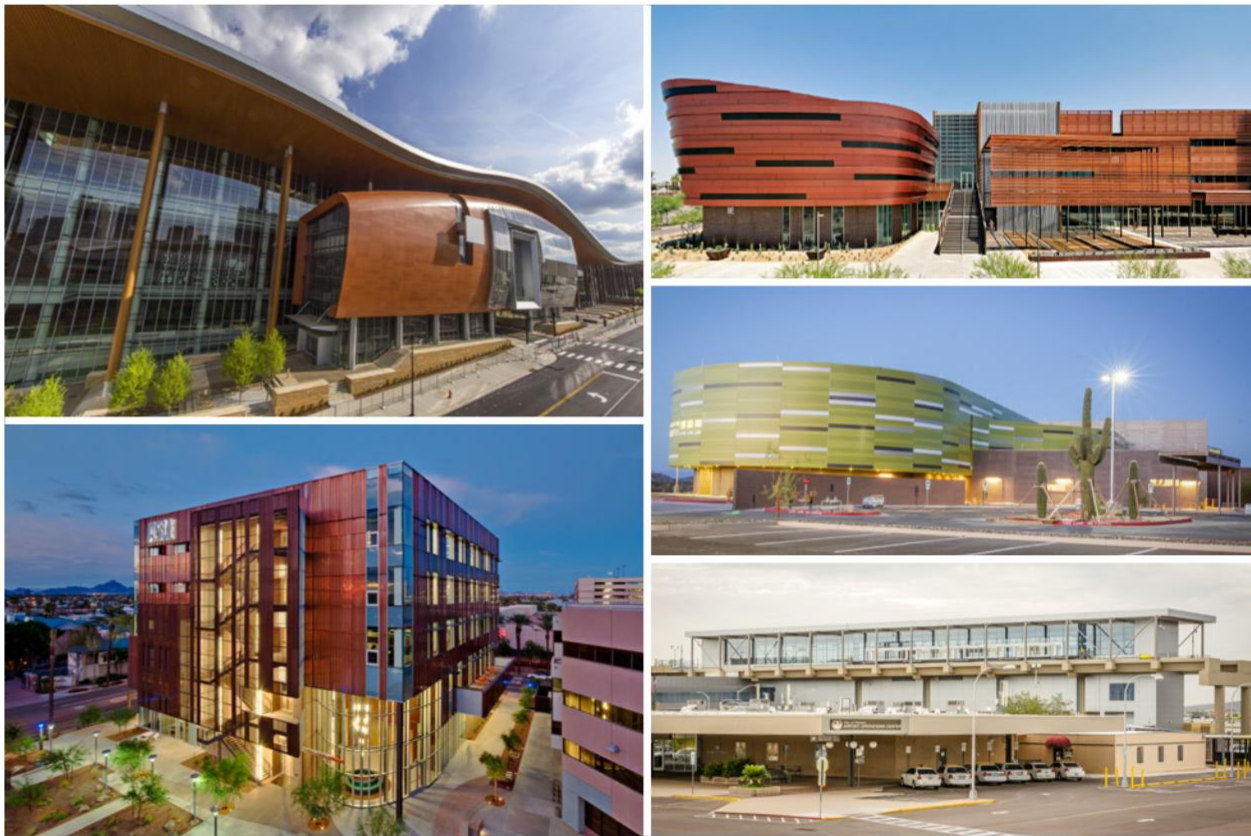
FEITENG A2

EN 13501-1 A2-s1, d0	ASTM E84 CLASS A	BS 476-6 CLASS 0

FEITENG FR

EN 13501-1 CLASS B-s1, d0	ASTM E84 CLASS A	BS 476-6 CLASS 0

Discover more possibilities of FEITENG X materials and make the world more beautiful



Colors & Finishes Changes

Exhibition Design	Concert	News Conference
· Standard Series · Brushed Mirror Series	· Standard Series · Brushed Mirror Series	· Copper Stainless Steel Series · Diffuse Reflection Series

FEITENG LYRA Storage & Handling



Film Protect

The protective film on FEITENG metal composite panel plays an indispensable role in processing, transportation, and installation, preventing dust and stains on the metal surface. Long term exposure to sunlight can cause the protective film to lose its stickiness and be difficult to remove.

Therefore, it is necessary to remove the surface protective film within 45 days after installation on the wall. When installing the FEITENG metal composite panel, it is important to ensure that the direction indicated by the arrows on the protective film is consistent and pointing upwards.



FEITENG LYRA Processing Method

The Feiteng LYRA series is a widely used material. Since its core material is LDPE, special care must be taken during processing to avoid overheating, which can cause the core to melt or deform. Below are commonly used processing methods:

Core Principle: Avoid Overheating! Frictional heat generated during processing or concentrated heat sources (such as high-speed cutting, laser cutting, welding, etc.) can easily melt the PE core material, leading to delamination, deformation, or blade sticking.

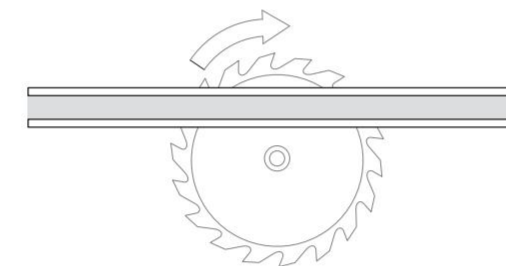
Cutting

Manual Tool Cutting

1. **Hook Knife / Drywall Knife:** Suitable for straight cuts and simple curved cuts on thinner sheets (e.g., 4mm).
2. **Manual Hacksaw / Panel Saw:** Can cut both straight lines and curves.
3. **Shears (Large Metal Snips):** Only suitable for standard FEITENG LYRA series (3mm and below).
4. **Utility Knife / Trimming Knife:** Cannot effectively cut the sheet material itself.

Power Tool Cutting (Preferred Method)

1. **Jigsaw:** Excellent for cutting curves, openings, and irregular shapes. (Recommended: 18-24 teeth per inch).
2. **Circular Saw:** Best for fast, precise straight cuts. (Recommended: 80+ teeth). Always use a fence to ensure straightness.
3. **Band Saw:** Very effective for precise curved cuts or batch production (use medium to low speed).
4. **Reciprocating Saw:** Can be used for openings or cuts; requires fine-tooth blades and low speed.
5. **CNC Router / Milling Machine:** Used for high-precision, complex shape cutting and milling (e.g., grooving, cutting irregularly shaped holes).



Cutting Methods to Avoid

1. Plasma Cutting
2. Laser Cutting
3. Oxy-Fuel Cutting (Oxyacetylene/Gas Cutting)
4. High-Speed Angle Grinder (with abrasive discs)
- Waterjet Cutting

Forming

FEITENG LYRA series cannot be thermoformed (heat bending). The primary forming methods are:

1. **Cold Bending**
 2. **Press Brake Bending:** Can be performed in factories or on-site using specialized press brake equipment.
- Roll Bending:** Sheets can be curved into arcs (cylindrical surfaces) using a three-roll bender. This must also be cold bending, with limitations on the bending radius. Apply pressure slowly and progressively.

FEITENG LYRA

Processing Method

Joining

Connections between aluminum-plastic panels or with other materials primarily rely on mechanical fastening and adhesive bonding:



Mechanical Fastening

1. Rivets (Pop Rivets / Blind Rivets)

One of the most common methods, especially for fixing to metal framing/rails.

Critical: Select rivets of appropriate length and material (typically aluminum) to avoid over-penetration damaging the panel surface. Pre-drill holes before riveting.

2. Screws / Self-Tapping Screws

Used for fixing to wooden or metal substrates.

Critical: Must be used with large washers (aluminum or plastic) to prevent screw heads from denting the aluminum skin.

Drill holes slightly larger than the screw diameter (allowing thermal expansion gap). Avoid over-tightening.

Recommended screw materials: stainless steel or aluminum to prevent galvanic corrosion.

3. Cover Strips / Decorative Trims

Used for seam treatment or edge finishing. Fixed to the substrate with screws while clamping adjacent panel edges.

4. Clip Systems

Certain curtain wall systems use specialized clips for inter-panel connection and fixation.

Adhesive Bonding

1. Construction Structural Adhesives

(Silicone, MS Polymer, or Polyurethane Adhesives)

Used for bonding FEITENG LYRA panels to flat, solid substrates (e.g., concrete, cement board, metal sheets, plywood) or sealing panel joints.

Critical: Select adhesives specifically compatible with both aluminum and PE (always verify suitability for PE-cored aluminum-plastic panels in the adhesive's technical datasheet). Common types: high-performance silicone structural sealants, modified silane (MS) polymers, or specific polyurethane adhesives. Procedure: Thoroughly clean bonding surfaces (degrease and remove dust). Strictly follow adhesive specifications (bead size, open time, curing conditions). For large-area bonding, combine with temporary mechanical fasteners.

2. Double-Sided Tapes

High-strength VHB™ (Very High Bond) foam tapes may be used for partial bonding or auxiliary fixation.

Critical: Confirm tape adhesion compatibility with PE surfaces.

Usage: Always supplementary to mechanical fasteners or structural adhesives; never as the primary load-bearing connection.

Drilling

1. Tool Requirement

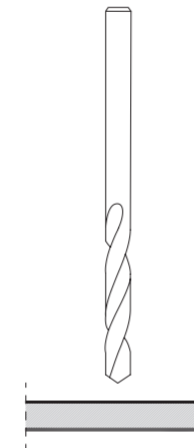
Use sharp metal twist drill bits (HSS or carbide).

2. Speed Control

Drill at medium to low speed to prevent overheating.

3. Material Support

Place a backing block (e.g., wood) beneath the panel at the drilling point to prevent tearing of the back aluminum skin during breakthrough.



Grooving

V-Grooving (Backside)

Primarily used for pre-bending preparation.

Equipment: Use dedicated grooving machines (equipped with carbide V-cut tools) or CNC milling machines. Critical Requirements: Only applicable to FEITENG LYRA series with aluminum layers $\geq 0.3\text{mm}$.

Precisely control cutting depth: Cut through only the back aluminum skin and partially into the adhesive layer. Preserve the integrity of the front aluminum skin. Use razor-sharp tools with moderate feed rate (to prevent overheating).

Key Processing Precautions

AVOID OVERHEATING!

The cardinal rule for machining PE-cored aluminum-plastic panels.

Mitigation measures: Use sharp tools with fine teeth. Maintain low to medium speeds. Employ intermittent cutting (pause to dissipate heat). Apply cooling methods (e.g., air blasts).

1. Sharp Tools are Non-Negotiable

Dull tools generate excess heat, causing core melting, blade sticking, and ragged edges.

2. Secure Workpiece Support

Ensure panels are flat and firmly clamped during cutting/drilling to prevent vibration-induced tears or uneven cuts.

3. Preserve Protective Film

Retain the surface protective film until installation is complete to prevent scratches.

4. Mandatory Safety Gear

Safety glasses, Dust respirator (for aluminum/plastic particles), Hearing protection (power tool noise), Cut-resistant gloves.

5. Edge Treatment

Cut edges may have sharp aluminum burrs. Gently deburr using a fine file or sandpaper.

6. Seal Exposed Core Edges

For outdoor/long-term use or corrosive environments: Seal exposed PE edges with compatible sealant (e.g., silicone). Prevents moisture/chemical ingress → delamination.