www.lghausys.com

LG Hausys

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LG Hausys interior film

LG Hausys

INTERIOR FILM
GUIDE BOOK

Nature, Human and Space

Turning Nature into Living Space
We work hard to enrich the lives of our customers and ensure their health by pursuing spaces that are in complete harmony with nature, while supplying eco-friendly materials and improving energy efficiency at the same time.

Embracing people
We are increasing the value of people's lives and setting trends in living spaces through designs that are not only beautiful and human-friendly, but also emotionally appealing.

Inspired Living Space
We put the highest priority on customers, creating living spaces where people experience perpetual happiness.



LG Hausys
interior film

LG Hausys

LG Hausys Interior Film

LG Hausys self-adhesive interior film, produced by LG Hausys Ltd, a leading surface materials manufacturer in Korea, provides total solution to the commercial and shop fitting sectors without the disruption of replacing existing fixtures and fittings.

Characteristics



Economical

Simple and easy installation compared to the traditional finishing materials. LG Hausys Interior Film can be easily repaired or removed, partially or as a whole piece.



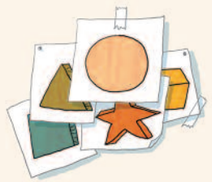
Convenient

LG Hausys Interior Film has excellent flexibility and adhesion, which allows perfect finish to curved areas and complex shapes.



Durable

Highly resistant to impact, abrasion and scratching. LG Hausys Interior Film is also very stable even when exposed to heat, humidity or low temperatures.



Creative

Create your own space with the various patterns and colors of LG Hausys Interior Film, such as wood grain, metallic and leather.

LG Hausys Interior Film

embodying sense of nature

Space embracing sense of nature is alluring.

Eloquent interior film that pours out an air of artistic sensibility

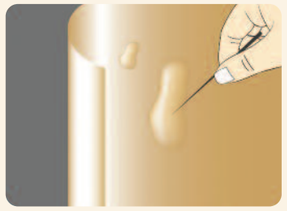
Assuming a creative and unique space of naturalism.

AIR FREE

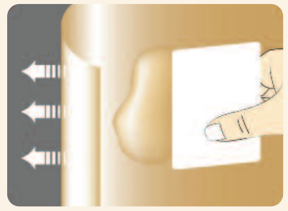
No more Air-bubbles during installation!

By resolving inconvenience due to air-bubbles during installation, it shortens installation time and prevents bumpiness of the product, by minute air-bubbles, and enhances its quality.

Before Air Free applied

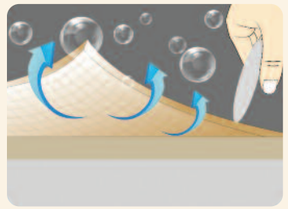


Separate elimination work is needed to remove air-bubbles



Difficulty and time-consuming work to remove air-bubbles

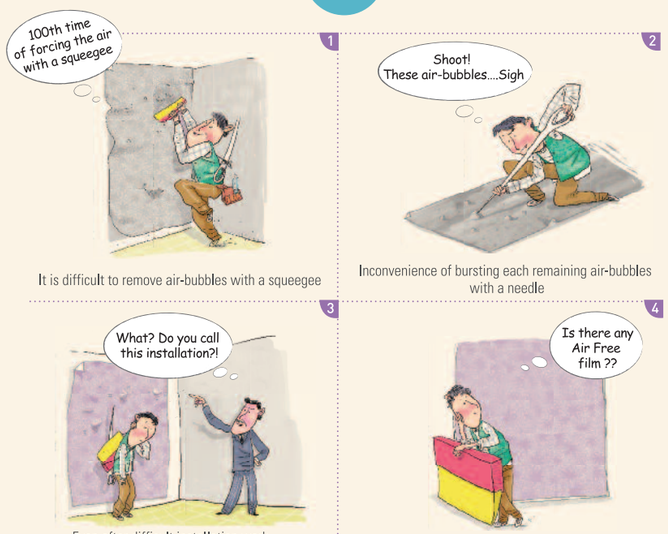
After Air Free applied



Easy removal of air-bubbles and time reduction for installation

Enjoy the Cartoon~
LG Hausys Interior Film Decorating Space with Ease

Without Air Free



With Air Free



※ AIR FREE adhesive System Applied Product : All products excluding MY WOOD series







PART 1 Product Introduction

04 KARIM COLLECTION
A Product Designed by World-Renowned Designer, Karim Rashid.

06 NATURE CRAFT
An exclusive abstract product, enabling pattern matching, by accomplishing the world's very first shrinkage ratio to "Zero".

07 HIGH GLOSS
Accomplished glossy effect of distinctive exterior, through the world's first high-gloss surface treatment.

08 ART LEATHER
By applying the world's first special manufacturing process, exhibited cushion sense of leather and diversified design.

09 EL REINA
With the basis of artistic design, exhibited special printing process and fashion metal effect.

10 LUXURY WOOD
By grafting fashion metal effect onto wood grain, manifested enhanced elaborate wood pattern.

10 CUBIC WOOD
By grafting visual dimensional effect on to wood grain, exhibited distinctive design effect.

11 DELUXE WOOD
Sense the natural pattern and texture, with design that manifests the most, appearance and texture expression of real wood.

11 MY WOOD
Dimensional sense and texture expression of real wood is exquisite.

12 SOLID
Demonstrated with diversified and elaborate tones, ranging from vivid to monotone color.

12 METAL
Exhibited more lavish and discreet gloss and colors than real metal.

12 ABSTRACT
Illustrated marble and leather pattern, interior space may be applied easily in general.

PART 2 13 Installation Manual

PART 3 25 Certifications and Test Reports

PART 4 27 Application Examples

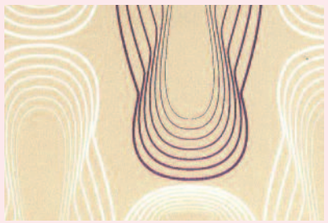
KARIM COLLECTION



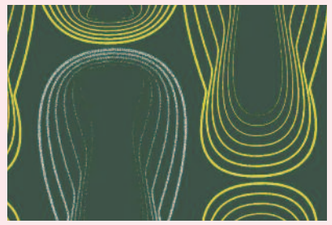
Design Collaboration with **LG Hausys**

'In all my work there is a notion of touching and communicating the day and age in which we live. Collaborating with LG Hausys afforded me the freedom and liberty to express ideas of the digital age, of experiential aesthetics, and of beauty and information as one into data driven patterns. My collection of graphic treatments and colors creates a landscape that is hypertextual, hypergraphic, hypertrophic, and energetic.'

- Karim Rashid



NC020 Invert



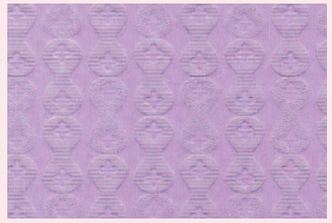
NC021 Invert



NC022 Invert



NC023 Infinikon



NC024 Infinikon



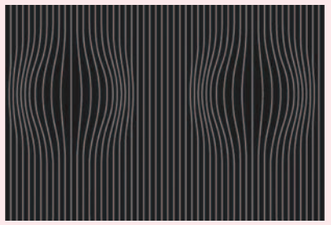
NC025 Infinikon



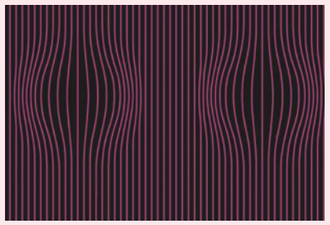
Karim Rashid

As a world-renowned industrial designer born in Cairo Egypt in 1960, he was well known as a leader of product design development throughout the world, with his one-of-a-kind design concepts and colors. He has worked with more than 400 companies throughout the world and participated in product design together with luxury brands including Sony, Prada, Kenzo and more revealing his true colors as an industrial designer.

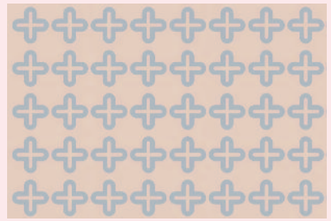
NC026 Morphscape



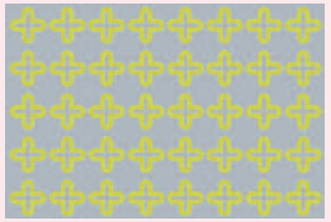
NC027 Morphscape



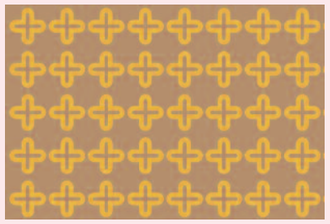
NC028 Morphscape



NC029 Kross



NC030 Kross



NC031 Kross

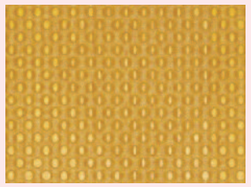
NATURE CRAFT



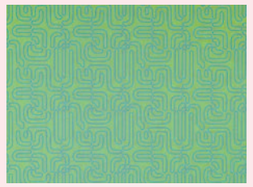
An exclusive abstract product, enabling pattern matching, by accomplishing the world's very first shrinkage ratio to "Zero".

- Lush abstract design where pattern matching and horizontal stripe is feasible.
- Clean and neat wall covering finish by butt joint installation.
- Product structure preventing aging of adhesion.

Thickness	Width	Roll Length
0.4~0.5mm	1,220mm	30m



NC018 Cat's Eye Dot



NC003 Geometric Figure



NH003 Mosaic Weaving



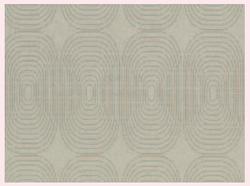
NC014 Concrete



NC011 Dual Fabric



NH006 Decorative Wood



NC006 Oval



NC009 Window Blind

HIGH GLOSS



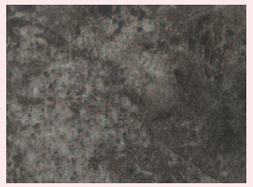
Fire retardant interior film accomplished by glossy effect with world's first high glossy surface treatment.

- Product design with the world's first high glossy surface treatment.
- Providing easy installation with optimal product thickness.
- Preventing surface scratches by protective film during installation.

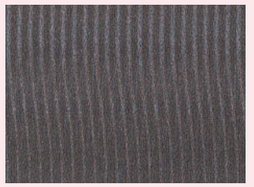
Thickness	Width	Roll Length
0.2mm	1,220mm	30m



GP006 Travertine Marble



GP005 Marble



GP002 Geometric Wave



GS001 Solid



GS005 Solid



GS006 Solid



GM001 Solid Pearl



GM004 Solid Pearl

ART LEATHER



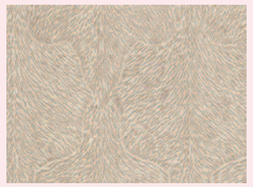
Stunning designed interior film with the world's first special manufacturing method.

- Providing the most authentic reproduction of leather textured cushion feeling.
- Excellent textured finish replacing the existing simple designs of leather pattern.
- Product structure preventing aging of adhesion.

Thickness	Width	Roll Length
0.7mm	1,220mm	25m



SL044 Twister



SL045 Velvet



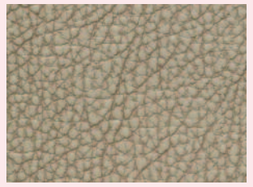
SL049 Lizard



SL041 Square Sculpture



SL048 Stripe Carving



SL032 Cow



SL002 Oriental Flower



SL029 Cross Stripe

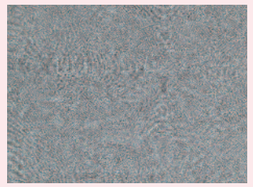
EL REINA



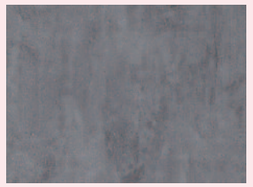
With the basis of artistic design, exhibited special printing process and fashion metal effect.

- A detailed artistic design and excellent surface texture effect with a special printing process.
- Maximizing sophisticated metal texture effect by a fashion metal processing method.
- Visual dimensional effect, with a special embossed printing process.

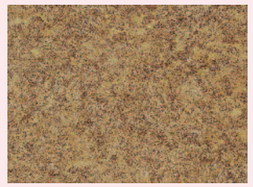
Thickness	Width	Roll Length
0.2mm	1,220mm	50m



EL183 Circle



EL176 Solid Concrete



EL181 Bronze



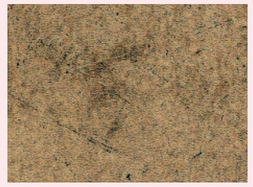
EL187 Patchwork Wood



EL091 Stripe Puzzle



EL043 String Wave



EV083 Textured Metal



EL052 Classic

WOOD



Luxury Wood

By grafting fashion metal effect onto wood grain, manifested enhanced Elaborate wood pattern.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



EV079 Luxury Wood



EV080 Luxury Wood



EV090 Luxury Wood



EV117 Smoky Wood

Cubic Wood

By grafting visual dimensional effect onto wood grain, exhibited distinctive design effect.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



DP002 Exotic Wood



DP005 String Wood



DP006 String Wood



DP007 String Wood



Deluxe Wood

Sense the natural pattern and texture, with design that manifest the most, exterior and texture expression of real wood.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



FW505 Cabreuba



FW488 Stripe Elm



FW484 Jatoba

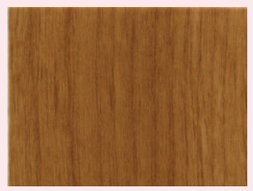


FW498 Dark Teak

My Wood

Exquisite dimensional sense and texture expression of real wood.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



CWB1



CW455



CW453



CW349

SOLID / METAL / ABSTRACT



Solid

Diversified and elaborate tones, ranging from vivid to monotone color.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



RE05



RS56

Metal

Lavish and discreet gloss and colors, compared to real metal.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



MS19



ME10

Abstract

Marble and leather pattern, where interior space may be applied easily.

Thickness	Width	Roll Length
0.2mm	1,220mm	50m



RM13 Marble



ML13 Leather

Installation Manual

1. Physical and chemical properties

Property	Test Results	Test Method
Dimensional Stability	Within 0.8mm (Length / Width)	Measuring a 100×100mm piece of film on a 150×150mm aluminium plate after 24 hours at 80℃
Temperature for adhesion	10℃ ~ 30℃	Measuring ideal temperature range for best adhesion
Weather ability	No effect	Measuring colour change and fading after 200 hours on weather-O-meter with XENON ARC lamp
Abrasion	No change	Measuring surface wearability by TABER abrasion tester. (abrasion wheel : CS-17, load : 1kg, cycle : 1,000)
Heat resistance	No change	Measuring film adhesion to aluminium plae after 30days at 60℃
Moisture resistance	No change	Testing film adhesion to aluminium plate after 30days at 40℃ and 90% relative humidity.
Low temperature resistance	No change	Testing film adhesion to aluminium plate after 15days at -30℃
Resistance to stains	No change	Measuring stains caused by the following liquid solutions 24 hours later, after wiping out with wet cloth : salt solution (1%), ethanol (50%) olefin oil, orange juice, caustic soda (10%), soap solution, coffee, coke. milk, vinegar.
Resistance to chemical	**Solution** / **Result** Heptane — No change Ethyl Alcohol — No change Water — No change Salt solution(5%) — No change MEK — Damaged Xylene — Damaged	Measuring the level of damage after soaking film (on aluminium plate) in different chemical solutions for 48hours
Flammability	Self extinguished	Measuring the flammability of film (on aluminium plate) All LG Hausys interior films have the function of fire retardant
Adhesion strength	**Substrate** / **After primer coating(kg/in)** Lauan veneer — 2.5↑ Timber veneer — 3.0↑ Gypsum board — 0.5↑ Asbestos slate board — 2.0↑ Melamine-baked steel sheet — 3.0↑ Aluminium sheet — 2.5↑ Stainless steel sheet — 2.5↑ Acrylic board — 2.5↑ MDF — 2.0↑	Measuring the adhesion strength of 25mm wide film applied on each substrate after 1days under ambient temperature (tensile speed : 300mm/min, 180° peel)

2. Preparation

Tools and materials



1 Primer (PM02, PM04) 2 Brush 3 Cleaning solvent (alcohol, white gasoline or lacquer thinner) 4 Lint
5 Plastic applicator 6 Steel ruler 7 Torch 8 Stanley knife (45° angle) 9 Needle or pin 10 Measuring tape
11 Hair dryer 12 Other : sandpaper, putty stick, sealer, masking tape, gloves

Cleaning and preparing substrate

Before installing the LG Hausys Interior Film, it is important to prepare the substrate surface and follow the specific instructions for each type of substrate, to ensure a high-quality, long lasting installation.

Substrate	Preparation method
General instructions	- For better adhesion and finish, scuff uneven surface with sandpaper or apply putty to make it flat. - It is recommened to use a good adhesion, hard-type putty. - In case you have to cover the whole surface with putty, sand it 2 to 3 times after dry to make it flat. - In case you are only touching up patches, try to use putty of same colour of the substrate.
Wood products	A. Scuff the surface with sandpaper. B. Apply putty on uneven area and smooth with sandpaper. Clean surface with solvent. C. Coat with the designated primer 2 or 3 times allowing to dry after each coat. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
Untreated steel, electro-galvanised steel	A. Remove rust and stain with sandpaper first and clean the surface with solvent. B. Apply putty on uneven area and smooth with sand paper. Wipe out with solvent. C. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
Aluminium, stainless steel, painted steel	A. Abrade uneven and welded areas with sandpaper. B. Remove stain with solvent, apply putty on uneven and welded areas and smooth with sandpaper. C. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
PVC laminated steel	A. Check that the surface is in good condition to avoid low adhesion and bubbling. B. Remove stain with solvent and apply primer. C. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
Painted substrate	A. Test paint type and condition for adhesion by pre-applying a small piece of film on the surface. B. Remove stain with solvent and make sure that the surface is not damaged. C. Apply putty on uneven areas and smooth with sandpaper. D. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
Melamine laminates, polyester coated laminates	A. Abrade the surface with sandpaper and remove stain with solvent. B. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
Plastic	A. Aviod substrates that contain any additives. Substrates such as flexible PVC, PP, Nylon and fluorine are espercially not recommended. B. Remove stain with solvent. C. Priming is not necessary. Adhere film straight away.
Mortar, limestone	A. Finish with steel trowel after joints are filled with joint material to prevent cracks. B. Allow it to dry for a minimum of 3 weeks. C. Remove stain with sandpaper or wire brush and clean the surface. D. Coat surface with sealer and apply putty over the whole area for better adhesion. E. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).
Gypsum board, calcium silicate board, asbestos slate	A. Fill voids with filler and apply putty after sealer coat. B. Abrade the surface with sandpaper and clean with solvent. C. Adhere film after complete primer dry for over 30minutes(PM02-Solvent type). Adhere film after complete primer dry for over 2hours(PM04-Water type).

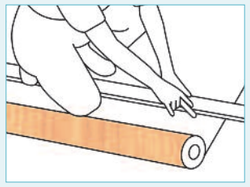
3. Installation

Substrate conditioning, storage and handling

Substrate	Preparation method
Substrate conditioning	**Temperature** For unprimed surfaces to gain maximum adhesion. LG Hausys Interior Film should be installed to substrate with a temperature ranging between 10℃~30℃. If the substrate temperature is below 10℃, it should be heated by infra-red ray lamp, jet heater or hair dryer to ensure the correct temperature. If the recommended primer is used, it is possible to apply the film to substrate with a temperature of 10℃ and over. Once the film is adhered to substrate, press the film to the substrate while heating it with a dryer. **Dust and contamination** It is vital that the work area is free from dust particles, as should particles be trapped between substrate and film, they will show through the surface of the film. Ensuring that the work area is well it will assist in identifying any contamination or air bubbles in the surface. **Safety** The primer and substrate sealant are combustible and inflammable and should not be used or stored near heat, sparks or naked flames. Work areas should be well ventilated. **Application table** The work table or bench should be covered with corrugated paper or a blanket to ensure the interior film is not damaged.
Storage and handling	**Precautions** LG Hausys Interior Film should be stroed in a dry, cool, dark room. LG Hausys Interior Film has a shelf life of one year. Where possible when transporting LG Hausys Interior Film, it should be top loaded to avoid damage. Particular care should be taken in storage and handing in winter as the film can become hard and more susceptible to damage.

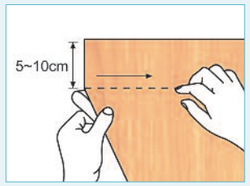
Procedure for installation on flat areas

Measuring and cutting



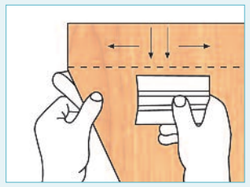
Lay the film on flat working table and measure the substrate.
Always cut the film allowing for a 2~4cm over trim.

Positioning

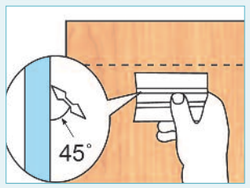


Start positioning by placing the film on the substrate.
Peel back the release paper and fold it.
Gently press with your thumb to gain enough adhesion to hold the film in place.

Adhesion **Step 1**



To eliminate any air bubbles under the film start in the middle of the panel.
With the plastic applicator apply pressure on the film to gain full adhesion.
Start in the middle of the panel and work your way out to the sides of the panel in each direction.
Hold the plastic applicator at a 45° angle to the substrate making sure you work the applicator in one direction only.



Step 2

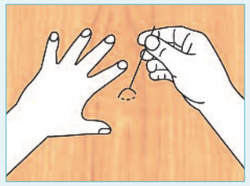


Pull back the release paper 300mm at a time.
While pulling back the release paper, apply pressure with the plastic applicator working from the top to the bottom of the panel.

Step 3

Once the LG Hausys Interior Film is adhered, press the entire panel again with the plastic applicator working from the top of the panel to the edges.
Particular attention should be paid to the edge of the panels.

Air bubble releasing



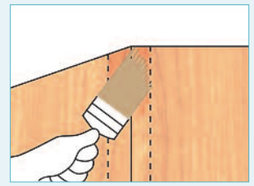
If during installation air should be trapped behind the film causing a bubble, gently strip back the film and reapply with the plastic applicator.
Very small air bubbles can be released by pricking the bubble with a pin.
Press out the entrapped air by moving your trumb toward the puncture.

Finishing

Any excess over trim should then be trimmed off with a Stanley knife.

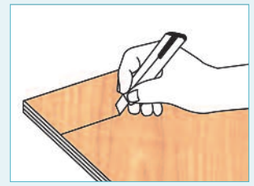
Procedure for installation on corners
Internal corner treatment

Preparation



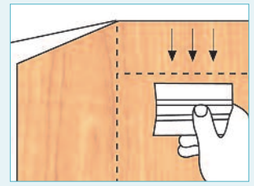
When LG Hausys Interior Film is applied to internal corners, firstly apply primer to the corner covering at least 50mm of each surface.
This will ensure maximum adhesion.

Cutting and Positioning



Follow the same method as for flat panels.

Adhesion **Step 1**



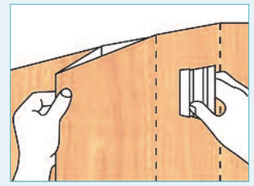
Apply the film from the widest section of the internal corner.
Using the applicator, apply pressure to ensure the film does not bubble or drop. Press and squeeze along the corner.
When the temperatuer is under 20℃, apply the film while heating it evenly. Do not over heat as this could cause the film to wrinkle.

Step 2

Step 3

Once the film is installed into the first section of the corner gently life and pull the film and apply pressure to the remaining corner section.

Step 4



Once installed, apply pressure to the entire section using the plastic applicator, especially the corner section.

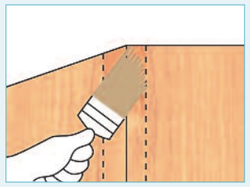
Air bubble releasing and finishing



Follow the same procedure as for flat areas.

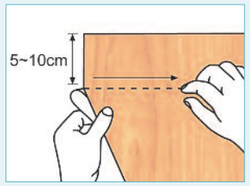
External corner treatment

Preparation, measuring and cutting



Follow the same procedure as detailed for internal corners.

Trimming



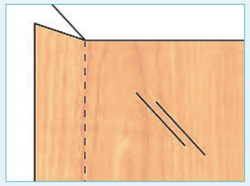
Trim film to the desired width including the corner over trim.

Positioning

Follow the same procedure as for flat panels.

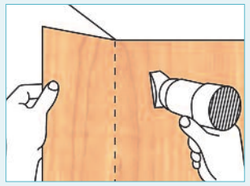
Adhesion

Step 1



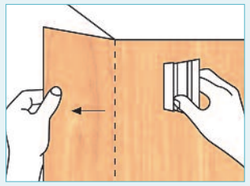
Apply the film from the width section bordering the external corner.
Do not strip off the release paper of the narrower corner section.

Step 2



Using the applicator, apply pressure to ensure the film does not bubble or drop. Press and squeeze along the corner. When the temperature is below 20℃, apply the film while heating it evenly. Do not over heat as this could cause the film to wrinkle.

Step 3



Using the same method as for flat panels, remove the release paper 200 to 300mm at a time.
Hold the film firm while applying pressure with the applicator.

Step 4

Once installed, apply pressure using the plastic applicator to the entire section, especially the corners.

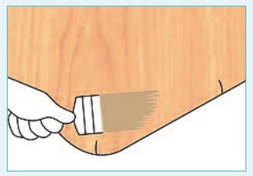
Air bubble releasing and finishing



Follow the same procedures as for flat areas.

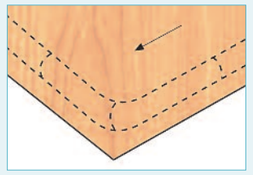
Treatment for three-dimensional curved surfaces

Preparation



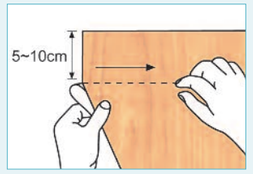
Once any bullnose or curved edges have been shaped and sanded, apply primer to the curved surface and reverse side.
If the primer is easily adsorbed by the substrate, reapply the primer on the former has dried.

Measuring and cutting



Cut the film 100mm larger than the substrate size.

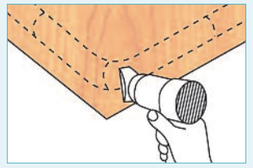
Positioning



Follow the same procedure as for flat surfaces.

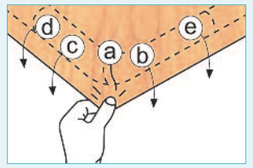
Adhesion

Step 1



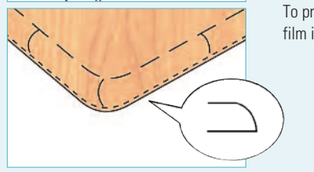
Apply the film on flat area first.
Gently heat the film that will be applied to the curved surfaces with a dryer.
After the film has softened, it is then wrapped by pulling the film gently around the curve.

Step 2



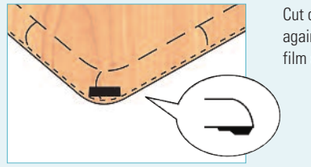
After the film is softened, hold the (a) part with the fingers and pull in the direction of the arrow. Follow by pulling the (b), (c), (d) and (e) parts working away from the corner. Ensure that enough pressure is applied to avoid any air bubbles or so that the film does not crumple.

Step 3



To prevent the edge of the film from peeling off and shrinking, ensure the film is covering 20 to 30mm of the reverse side of the panel.

Step 4



Cut off any excess of rolled up film with a Stanley knife. Apply pressure again to the entire panel, especially at the curved edge. To ensure the film does not shrink from the corner, apply a staple on the corner.

Air bubble releasing and finishing



Follow the same procedure as for flat areas.

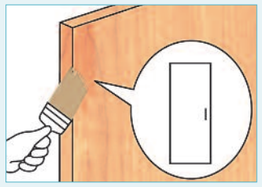
Procedure for installation on door surfaces

Flush panels and smooth doors

- LG Hausys Interior Film can be applied to doors either in the factory after manufacture or on the work site prior to the final installation of the door.
- The door frame should be installed and any fitting adjustments should be made prior to applying the LG Hausys Interior Film.
- LG Hausys Interior Film can be installed whilst the door is hanging.
  However, it is easier to remove the door from the frame and lay the door flat on a working table and apply the film whilst the door is horizontal.
- Remove any hardware such as locks handles etc and replace at the completion of work.

Preparation

Step 1

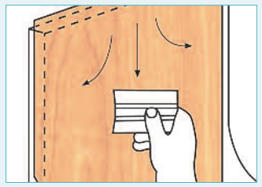


Remove any dust, oiliness or surface contaminants on the substrate with a lint free cloth and thinners.
Any surface imperfections should be removed with sandpaper.

Step 2

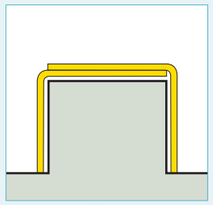
After cleaning the substrate, apply primer particularly to the top and edges of the door.

Adhesion



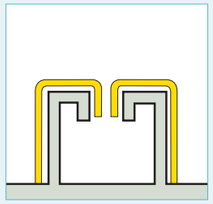
Install as per instructions for flat areas.

Flush panel

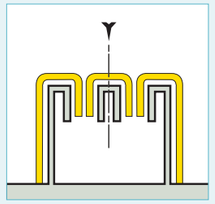


(Fig. A)

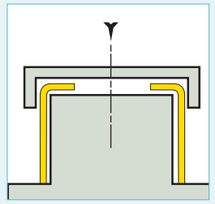
Apply the film by overlapping both sides on the joint at the top of the door.



(Fig. B)



(Fig. C)



(Fig. D)

Fig. B

Apply primer to the substrae of the door frame using the applicator. Press in the film as firmly as possible with the plastic applicator to a depth of at least 5mm

Fig. C

Detach the center join by unscrewing the wood screw. This can be replaced after the film is installed. Using the applicator press in the film as firmly as possible to a depth of at least 5mm, similar to figure B.

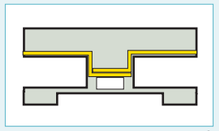
Fig. D

Remove the casing from the top and then apply the film allowing for a 30mm overlap. Reinstall the casing once the film is installed.

Procedure for installation on partition walls

LG Hausys Interior Film can be applied to partitions either in the factory after manufacture or on the work site prior to the final installation of the partition.

Preparation



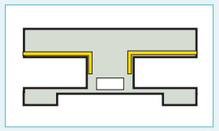
A

Remove any dust, oiliness or surface contaminants on the substrate with a lint-free cloth and thinners.
Any surface imperfections should be removed with sandpaper.

Priming

Apply primer to the dege, joins and overlapped part of the film

Installation



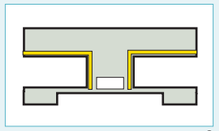
B

If the film is being installed at the work site, install as detailed in figure A and B.

Fig. A

To ensure a good quality join finish, apply th film by overlapping at the partition join.

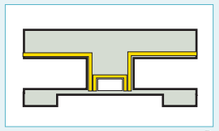
Fig. B



C

It is important that the film is well adhered to the top section of the partition so that it does not peel off.
Ensure that at least 10mm of film is adhered to the top of the partition.

Factory installation

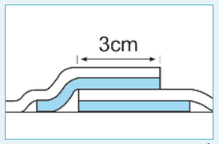


D

If the film has already been applied at the factory, prior to delivery to the work site, simply install the partition as per figure C and D.

Procedure for butt joining method

Adhesion



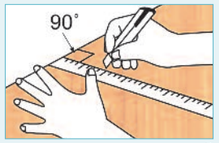
A

When butt joining, LG Hausys Interior Film leave 50mm of the release paper on the back of the film.
Leave a minimum of 30mm over trim on both sides of the join so that they can be overlapped.

Conditioning

To minimize any shrinkage at the joint, leave the LG Hausys Interior Film for 24hours before cutting back the over trim.

Cutting



B

Place a ruler on thr center of the joint.
Carefully slice through both pieces of the film.
The knife blade should be at right angles to the film.

Dust remova



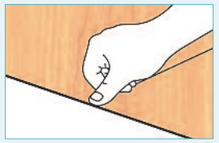
C

Remove the cut fragment of the film.
Also remove any dust from the surface of the substrate.

Release paper removal

Strip off the release paper as per figure C.

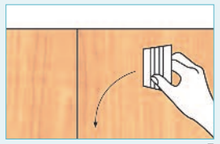
Adhesion



D

Once both edges of the film are butt together, press into place with the tip of your finger.

Finishing



E

Once satisfied with the quality of the butt joint, press down with the plastic applicator.

Installation procedure for walls

1. Application on space left joint

Characteristics

A. Prior or installation of the LG Hausys Interior Film check the roll for damage.
B. It is also important to check the rolls for colour match prior to installation.
C. It is also important to install the film with any patterns, embossing or textures running in the same direction.

Item	Requirements
Calcium silicate insulator or flexible board	When using calcium silicate insulator or flexible boards, cut with a panel saw ensuring all cut edges art smooth. When joining, allow a 6mm deep by 6mm wide gap between the panels.
Gymsum plaster board	Install a kiln dried timber batten at the joins as detailed in figure B. Do not join the film directly onto the edges of the plaster or gypsum board. Ensure all fixing screws and nails are sealed with putty.
Mortar	Fill all joins with PVC filler to ensure joints do not crack. The walls should be smooth and free from defects. mooth out any uneven wall with a steel trowel or spatula as per figures C, D and E. Thoroughly wash down wall prior to installation.

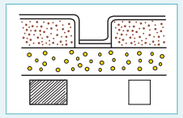


Fig. A

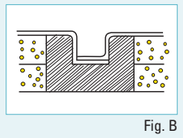


Fig. B

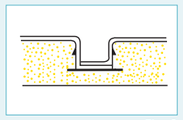


Fig. C

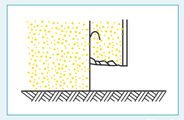


Fig. D

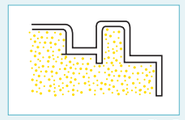


Fig. E

2. Flat joining application

It is important to overlap the film at joins.

Joining specifications

Overlapping is important as substrates such as flexible board and gypsum plaster can expand and contract.
Overlapping at the joins will ensure that the joins are less noticeable should panels contract.

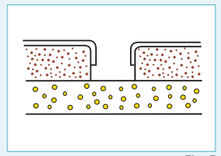


Fig. F

3. Installation for narrow joins

If the joint between panels is under 4mm, the following installation method should be used.

Joining specifications

As it is difficult to gain a neat narrow join, it is advisable to install a joiner or moulding over the joint.

4. Overlapping join applications

A simple method of joining is to overlap the film 10~15mm, applying primer to the lower film.

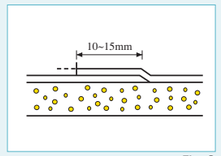


Fig. G

Installation precautions for Dynamic Metal series

1. Ensure ambient room temperature is above 12℃.
2. Take care to apply the film only once as repeated repositioning of the film can cause delamination.
3. Avoid installation to three-dimensional curved surface as strerching of the film can cause colour and pattern variation.
4. The surface of the substrate must be clean and smooth as any imperfections in the substrate may show through the high gloss metallic surface.
5. Wrap the plastic applicator in a lint-free cloth so that it does not scratch the surface.

■ Physical properties

Dynamic Metal film is prouced using advanced quality control, however there may be some colour variation between production batches.
Prior to installation, ensure that the colour of the substrate does not effect the colour of the film.
Ensure the substrate is clean and smooth so that imperfections do not show through the finished prodect.

Substrate preparation

Substrate	Wood, Veneer, Hard board	Gymsum board, Calcium Silicate board, Asbestos Plate	Overlapped Chlorinated Copper Plate	Mortar	Painted steel	Aluminum, Stainless steel
Surface preparation	Punch nails			Ensure walls are dry	Remove rust	
Sealer coating	-	-	Sealer	Sealer	-	
Application putty	EP putty, Moisture resistant putty, Cross putty			EP putty, Moisture Resistant putty, Cross putty, Board putty	Polyester putty, EP putty	
Surface grinding	Sand paper				1) Uneven, welded area-grinder 2) Flat area-sandpaper	
Surface Cleaning	Brush, Alcohol, thinner					
Primer Coating	(PM02-Solvent type) ·Dilute primer and thinner by 1:1 on overall. ·Use undiluted primer on edge. ·Adhere film after complete primer dry for over 30minutes.			(PM04-Water type) ·Dilute primer and water by 1:1 on overall. ·Use undiluted primer on edge. ·Adhere film after complete primer dry for over 2hours.		

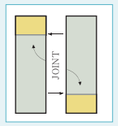
Other installation precautions

When two sheets of film are applied by overlapping

Item	Requirements
Priming	Apply the primer (PM-04) on lower film and overlap the top film after a complete dry.
Embossed patterns	It is not possible to join embossed by dynamic patterns using the overlapping method. Please contact your disitributor for further information.

Substrate sheet sizes

Item	Requirements
Board sizes	Where possible avoid horizontal joins in the substrate and using large sheet sizes that suit the ceiling height. If it is necessary to join substrate panels, alternate the horizonal joint at the top and bottom as per detail.
Substrate movement	To help eliminate movement in the substrate and cracking of fillers or putty, ensure the joins are well nailed.



Direction of colour design and embossing

The embossing has a delicate directional pattern.
Take care to install panels in the same direction, as if they are installed in opposite directions this can give the appearance of colour variation.

Primer application

When applying the primer to installed walls, apply it to prime alternated panels so that overlapping film does not become adhered to adjoining panels prior to being installed into the joins.

Things to be aware of during Interior Film application

1 Before applying

- Do not forget to check out the type and condition of material (MDF, etc.) to attach films to so as to identify any parts that might cause a problem.
  - In the case of MDF, a different density might cause incoherent adhesive strength and printing resistance performance. It is necessary to use MDFs with consistent density.
  - It is necessary to use alcohol to remove pollutants from the surface to be sprayed, and check if there is any damage to the sprayed face due to solvents. If it has an uneven surface, you can apply putty then finish with sandpaper. Use a dust brush to remove foreign substances.
  - In case of steel plates, remove any surface pollutants first with alcohol, lacquer or thinners. For an uneven surface, apply putty, then finish with sandpaper. Use a dust brush to remove foreign substances.
- Do not forget to carry out a prior inspection for any problems (pattern name, appearance, etc.) for products selected by customers.
- Film application should be done after woodwork and before painting or wallpaper hanging.

2 Prior task for Surface

- It is necessary to finishing thoroughly with sandpaper for cross section parts which are to have film applied (MDF etc.).
  - In particular, if the material is wood (MDF, PB, etc.), the smoothness of an edge or crevice is very important. Therefore you should finish the part with sandpaper or with pate treatment before proceeding any further.

3 Primer Treatment

- During primer treatment, a cross section of wood (MDF, PB, etc.) tends to absorb more primer than other parts. Thus, spray at least 2 or 3 coats of primer. Once primer is applied, the next treatment should start when the previous primer has completely dried.

4 How to apply

- Make sure to hide the cross section of the cut-out film as much as possible.
- Try not to show the substrate to be applied with film.
- It is possible there may be some color difference between product lots, so it is necessary to classify lots.
- When surface treated product is overlapped with another product, you should spray undiluted PM04 solution, an exclusive water-type primer for LG Hausys Interior Film then proceed after it has completely dried.
  - In particular, be careful with EI REINA (EL, EP), WOOD (DP, RW, MXA, NE), SOLID (RB, RS) patterns.

5 Things to be aware of when applying specific products

NATURE CRAFT

- Requires Butt Joint-style application. Butt overlap application may exfoliate on the overlapping part due to embossing or surface treatment layer.
- It is not available for curved area application as its special multi-layer structure could make exfoliation or surface crease with application of heat on the surface.
- When cutting and applying the product, it is necessary to consider how to connect patterns. If you cut the film by the printed markings on the release paper, it is impossible to match the patterns on different films.

HIGH GLOSS

- To fully achieve gloss effect of the film surface, you should work in a clean environment.
  - If there are some foreign substances such as dust and dirt on the substrate to apply film (MDF, etc.) and the film's adhesive side during application, the film surface could be marred or damaged.
- As the product is hard, it is necessary to pay more attention to finishing to ensure no loose edges by applying more strength to obtain visually pleasing finish.

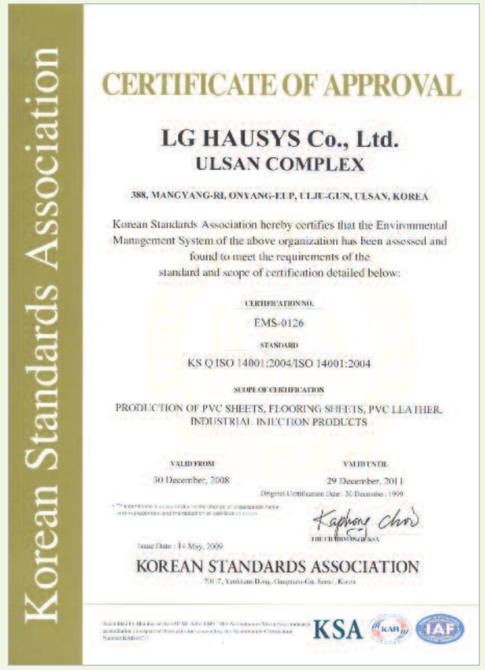
6 Others to note

- If you intend to apply film to a substrate not covered in the specifications regarding application methods and materials (MDF, etc.), please contact the LG HAUSYS or the dealer to check application possibility.
- You should follow the guidelines on the specifications to apply films.
- When film is applied, it is necessary to use the exclusive primer for LG Hausys Interior Film.
  - PM02 (Solvent primer), PM04 (Water primer)

Certifications and Test Reports


DET NORSKE VERITAS
MANAGEMENT SYSTEM CERTIFICATE
Certificate No. 19513-2008-AQ-KOR-RvA (Rev.2)
This is to certify that the Management System of
LG Hausys, Ltd.
Ulsan Calendar Plant
388, Mangyang-ri, Onyang-eup, Ulju-gun, Ulsan, Korea
has been found to conform to the Management System Standard:
ISO 9001:2008, KS Q ISO 9001:2009
This Certificate is valid for the following product or service ranges:
Design and Manufacture of Floor Covering, General Plastic Films, Sheets, Plates and Synthetic Leathers and Self Adhesive Products for Decoration, Home and Industrial Use
Original Certification date: December 5th, 2000
This Certificate is valid until: January 24th, 2011
Place and date: Seoul, March 2nd, 2010
For the Accredited Unit: DNV CERTIFICATION B.V., THE NETHERLANDS
Compliance to the Standard in respect to the indicated scope is certified by the DNV authorized registered Team Leader
Dae-Woong Kang
Lead Auditor
In-Kyoon Ahn
Management Representative
MGMT. SYS. RvA C 024

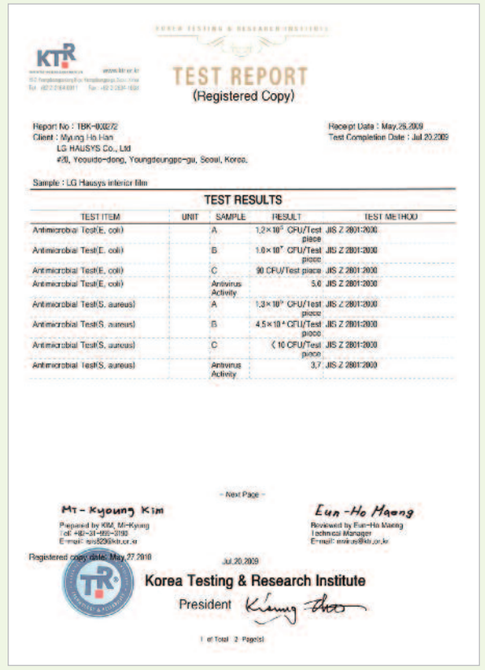
ISO 9001


Korean Standards Association
CERTIFICATE OF APPROVAL
LG HAUSYS Co., Ltd.
ULSAN COMPLEX
388, MANGYANG-RI, ONYANG-EUP, ULJU-GUN, ULSAN, KOREA
Korean Standards Association hereby certifies that the Environmental Management System of the above organization has been assessed and found to meet the requirements of the standard and scope of certification detailed below:
CERTIFICATION NO.
EMS-0126
STANDARD
KS Q ISO 14001:2004/ISO 14001:2004
SCOPE OF CERTIFICATION
PRODUCTION OF PVC SHEETS, FLOORING SHEETS, PVC LEATHER, INDUSTRIAL INJECTION PRODUCTS
VALID FROM
30 December, 2008
VALID UNTIL
29 December, 2011
Original Certification Date: 30 December, 1999
Issue Date : 14 May, 2009
KOREAN STANDARDS ASSOCIATION
KSA

ISO 14001


CERTIFICATE FOR
KOSHA 18001
Occupational Safety and Health Management System
LG hausys, Ltd. / Ulsan Complex
#388, Mangyang-ri, Onyang-eup, Ulju-gun, Ulsan-City, Korea
Serial Number Issuance : 69
Date of Issuance : September. 2009
Valid Period : Nov 24. 2009 ~ Nov 23. 2012
This is to certify that the occupational safety and health management system of the above company has been assessed and complied with the requirements of the KOSHA 18001 standards
KOSHA
KOREA OCCUPATIONAL SAFETY & HEALTH AGENCY
/ PRESIDENT

KOSHA 18001


KTR
TEST REPORT
(Registered Copy)
Report No : TBK-09272
Client : Myung Ho Han
LG HAUSYS Co., Ltd
#26, Yeouido-dong, Youngdeungpo-gu, Seoul, Korea.
Receipt Date : May.25.2009
Test Completion Date : Jul.20.2009
Sample : LG Hausys interior film
TEST RESULTS
TEST ITEM | UNIT | SAMPLE | RESULT | TEST METHOD
Antimicrobial Test(E. coli) | A | 1.2×10⁵ CFU/Test piece | JIS Z 2801:2000
Antimicrobial Test(E. coli) | B | 1.6×10⁵ CFU/Test piece | JIS Z 2801:2000
Antimicrobial Test(E. coli) | C | 90 CFU/Test piece | JIS Z 2801:2000
Antimicrobial Test(E. coli) | Antivirus Activity | 5.6 | JIS Z 2801:2000
Antimicrobial Test(S. aureus) | A | 1.3×10⁵ CFU/Test piece | JIS Z 2801:2000
Antimicrobial Test(S. aureus) | B | 4.5×10⁴ CFU/Test piece | JIS Z 2801:2000
Antimicrobial Test(S. aureus) | C | < 10 CFU/Test piece | JIS Z 2801:2000
Antimicrobial Test(S. aureus) | Antivirus Activity | 3.7 | JIS Z 2801:2000
- Next Page -
Mi-Kyoung Kim
Prepared by KIM, Mi-Kyung
Eun-Ho Maeng
Reviewed by Eun-Ho Maeng
Technical Manager
Registered copy date: May.27.2010
Jul.20.2009
Korea Testing & Research Institute
President
1 of Total 2 Page(s)

TBK-272



COMMERCIAL TESTING COMPANY
1215 South Harriton Street · Post Office Box 995 · Dalton, GA 30722
Telephone (706) 278-2606 · Facsimile (706) 278-3438

Standard Method of Test for
Surface Burning Characteristics of Building Materials
ASTM # E84-08a

Test #119301 ID: Benit (Film with Self Adhesive)
Client: LG Chem of America

Report Number 09-07199
Test Number 4053-5574
February 12, 2009

Professional Testing Laboratory, Inc.
Dalton, Georgia

Commercial Testing Company

This report is provided for the exclusive use of the client to whom it is addressed. It may be used to its entirety to gain product acceptance from any construction authorities. The test results presented in this report apply only to the samples tested and are not necessarily indicative of apparent identical or similar materials. Except insertion risk identification tests provided by the client. A sampling plan, if described in the referenced test procedure, was not necessarily followed. This report, or the name of Commercial Testing Company, shall not be used in any manner or advertising to the general public.

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Since 1972

ASTM E84



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BWSZ.R26170
Wall Coverings

Page Bottom

Wall Coverings

See General Information for Wall Coverings

LG CHEMICAL LTD. R26170
ULSAN PLANT
388 MANGYANG-RI
ONYANG-UP, ULJU-GUN
ULSAN CITY, 689-901 REPUBLIC OF KOREA

Wall coverings with a pressure sensitive adhesive backing, intended for application to interior surfaces.

Applied To Inorganic Reinforced Cement Board

	BENIF
Flame spread	5
Smoke developed	35

Last Updated on 2009-06-08

American Flame Retardant Certification UL-723



CERTIFIED COPY

Lloyd's Register

CERTIFICATE OF FIRE APPROVAL

This is to certify that:

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	LG Chem Co. Ltd (Ulsan Plant)
Address	388 Mangyang-ri Onyang-eup Ulju-gun Ulsan-City. 689-901 Republic of Korea
Type	MATERIAL HAVING LOW FLAME SPREAD CHARACTERISTICS & NOT CAPABLE OF PRODUCING EXCESSIVE QUANTITIES OF SMOKE & TOXIC PRODUCTS OF COMBUSTION
Description	Fire Resisting Material – Type: "LG Benif" Self Adhesive PVC Film (0.23mm thick)
Specified Standard	IMO Fire Test Procedures Code, Annex 1, Part 5 and Annex 2

The attached Design Appraisal Document forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	4 January 2008	Expiry date	3 January 2013
Certificate No.	SAS/H080022	Signed	
Sheet No	1 of 2	Name	M. Farrier Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Note:
This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd Certificate 1



CERTIFIED COPY

Lloyd's Register

USCG-EU MRA

mca

EC TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that

LLOYD'S REGISTER VERIFICATION LIMITED [LRV], specified as a "notified body" under the terms of The Merchant Shipping (Marine Equipment) Regulations SI 1999 No. 1957, that inspected the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Fire protection requirements of Marine Equipment Directive [MED] 96/98/EC as modified by Commission Directive 98/85/EC, 2001/53/EC, 2002/75/EC and 2002/84/EC subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer	LG Chem Co. Ltd (Ulsan Plant)
Address	388 Mangyang-ri Onyang-eup Ulju-gun Ulsan-City. 689-901 Republic of Korea
Annex A1 Item	A.1/5.2.5 – SURFACE MATERIALS & FLOOR COVERINGS WITH LOW FLAME-SPREAD CHARACTERISTICS (c) Decorative Veneers A.1/5.2.5 – SURFACE MATERIALS AND FLOOR COVERINGS WITH LOW FLAME-SPREAD CHARACTERISTICS (interior finish)
USCG Category Number	MATERIAL HAVING LOW FLAME SPREAD CHARACTERISTICS & NOT CAPABLE OF PRODUCING EXCESSIVE QUANTITIES OF SMOKE & TOXIC PRODUCT OF COMBUSTION
Product Type	Fire Resisting Material – Type: "LG Benif" Self Adhesive PVC Film (0.23mm thick)
Product Description	IMO Fire Test Procedures Code, Annex 1, Part 5 and Annex 2
Specified Standard	

The attached Design Appraisal Document (schedule) forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue	4 January 2008	Expiry date	3 January 2013
Certificate No.	MED/000001	Signed	
Sheet No	1 of 3	Name	M. Farrier For and on behalf of Lloyd's Register Verification LRV EC Designating No. 0158

Note:
This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

USCG-EU MRA

Subject to compliance with the conditions in the attached Design Appraisal Document (schedule), which forms part of this certificate, and those of Articles 10.1(c) and 11 of the Directive, the Manufacturer is allowed to affix the "Mark of Conformity" to the Product described herein.

Type: Low-level lights of a yacht utilized.

This product has been assigned a U.S. Coast Guard Module B number:

USCG Module B number: 164.112/EC/0158

EU type-type approval to Module B only as a prerequisite to obtaining U. S. Coast Guard approval as allowed by the "Corrigendum to Council Decision 2004/425/EC of 21 April 2004 on the conclusion of an Agreement between the European Community and the United States of America on the mutual recognition of certificates of conformity for marine equipment."

This certificate is issued under the authority of the MCA, Lloyd's Register Verification is a business name of Lloyd's Register Verification Limited, a member of the Lloyd's Register Group. Registration number 1097805. Registered office 71 Fenchurch Street, London EC3M 4BS, England.

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Lloyd Certificate 2

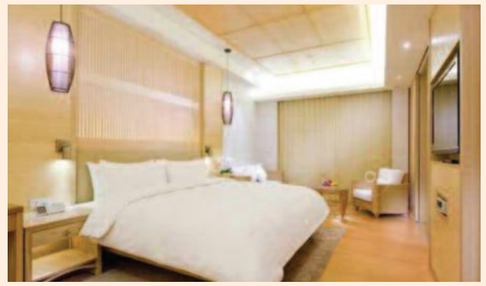
Application Examples

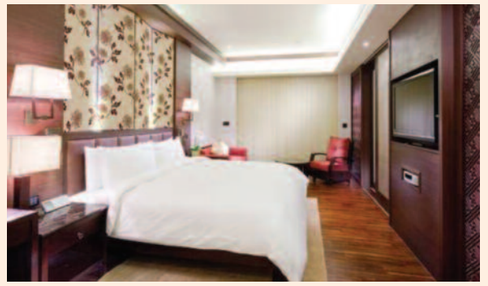


LG Hausys self-adhesive interior film provides simple and easy installation compared to existing surface finished materials. As a differentiated exterior design, it can represent a creative and unique space.

Application area: Multi-use facility including Government and Public Office, bank, hotel, hospital and surface finish of wall, door, art wall, ceiling, molding for interior building of office, apartment etc.









Application Examples

Government and Public Office / Financial Institution



Office Space



Hospital



Department Store / Outlet Mall



University



Lobby and Elevator



Application Examples

Restaurant / Hotel






Wedding hall






Apartment / church






Others





