



LVT floor application solutions

New Materials - New Technologies - New Services

Ecological New Materials Division | Product Promotion Department

Company Introduction



Merbau Decorate is a world-class brand of environmentally friendly elastic flooring. Its products are known for their high quality and high cost-effectiveness and are sold all over the world. In order to meet people's needs and aesthetics for a healthy lifestyle, Merbau Decorate products provide users with a variety of choices. The extensive promotion and application of elastic flooring in the fields of human settlement and engineering has created huge social and economic benefits.



UV coating research and development

Cigarette butt UV resistance, anti-slip UV resistance, iodine UV resistance, and now also developed UV that absorbs formaldehyde and releases negative ions...

UV curing coating

Ultraviolet curing technology, low volatility curing technology...

Special function flooring

Healthy antibacterial flooring, shrinkage-inhibiting flooring, warp-free flooring...

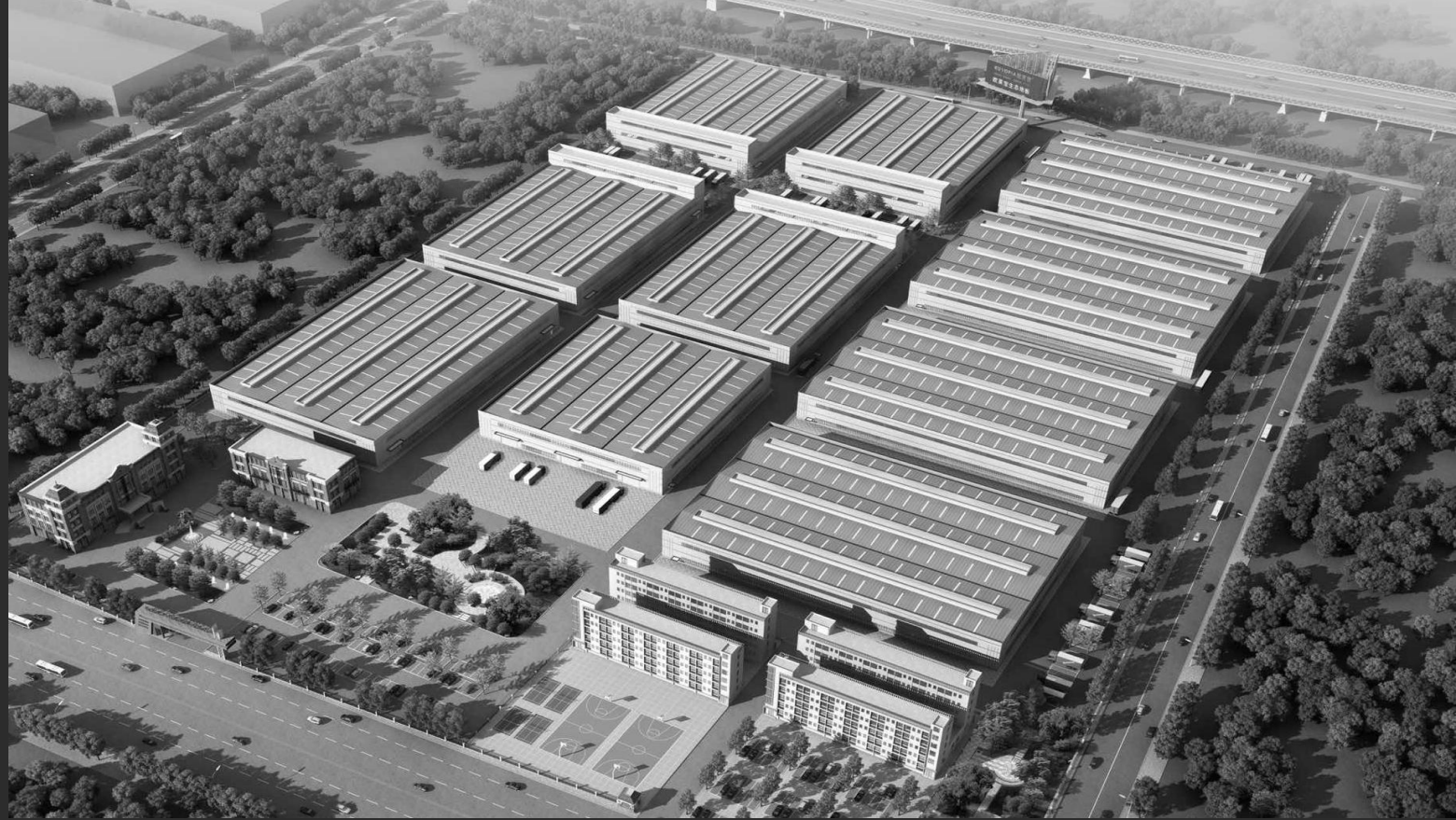
2016

Focus on scientific research

Merbau Decorate takes the research and development and production of high-quality products as the foundation of its brand. It has established the "Polymer Chemistry Joint Innovation Laboratory" with South China University of Technology, successfully developed dozens of core patents, and has been recognized as a "National High-tech Enterprise". It has deepened the widespread promotion and application of elastic flooring high-tech in the fields of human settlement and engineering, and created huge social and economic benefits.

2018

Backed by the factory

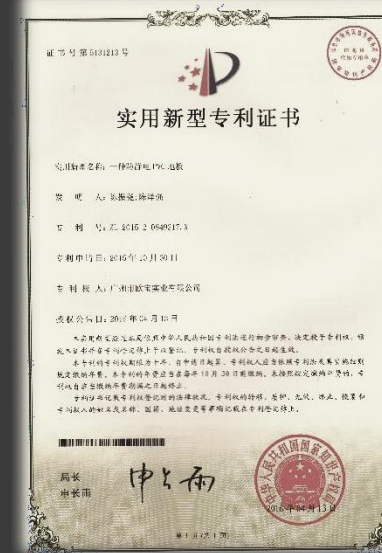
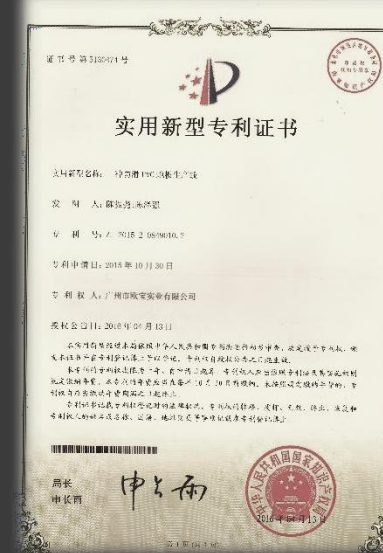
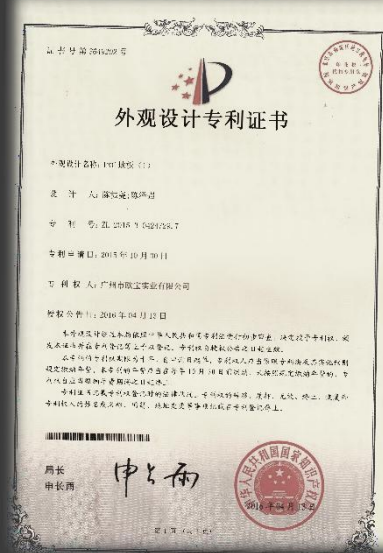
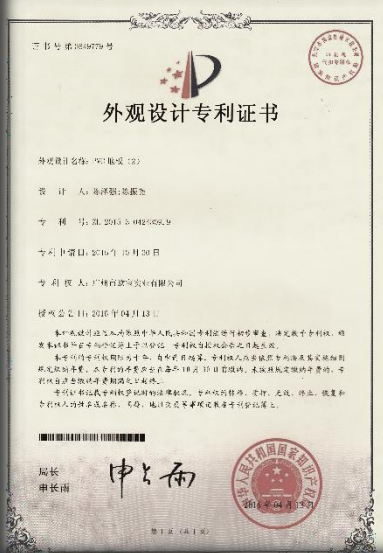
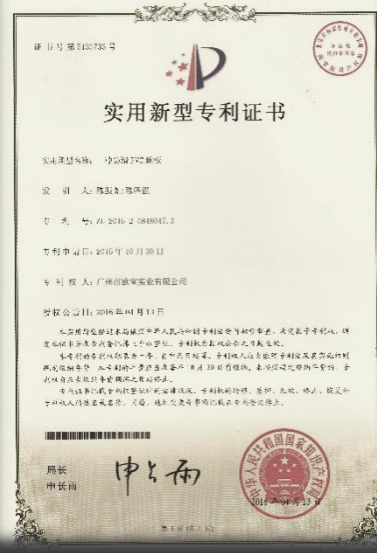
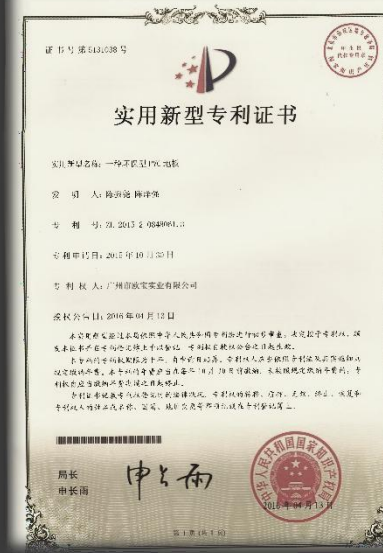
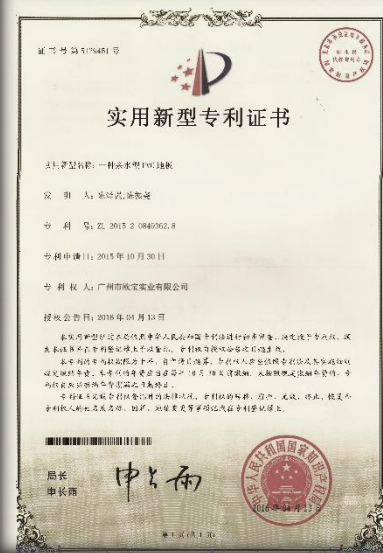
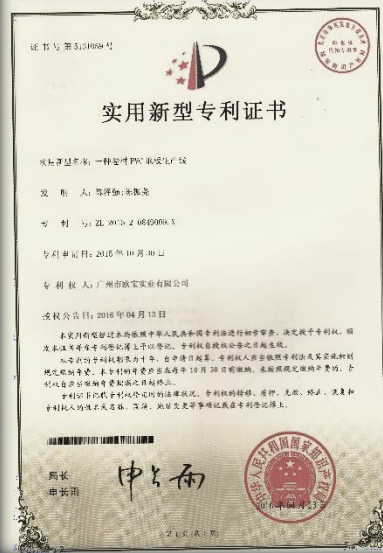


Wholly owned factory

Merbau Decorate environmentally friendly new materials

In 2018, the Group invested RMB 400 million to build the Merbau Decorate environmentally friendly new material factory, which is located in Jiangmen City, Guangdong-Hong Kong-Macao Greater Bay Area. The first phase covers an area of 150 acres and construction started in 2019.

Possessing advanced patented technology



International Qualification Recognition




BEIJING HANGXIE CERTIFICATION CENTER CO.,LTD.
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 Organization Code: 9144010566403270XW
 Registration Address: Room 3905, Tower E, No.1022, Xingang East Rd, Haizhu Dist, Guangzhou, China P.C 510335

In conformity with : ISO9001:2015
 Certification scope: The research and marketing of the PVC flooring materials
 Issue Date: Jun 26,2017 Expiry Date: Jun 25,2020
 First Issue Date: Jun 26,2017



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General Manager: 

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In conformity with : GB/T 24001-2016 idt ISO14001:2015
 Certification scope: The environmental management activities related to the development and sales of PVC flooring materials
 Issue Date: Jun 26,2017 Expiry Date: Jun 25,2020
 First Issue Date: Jun 26,2017




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 Organization Code: 9144010566403270XW
 Registration Address: Room 3905, Tower E, No.1022, Xingang East Rd, Haizhu Dist, Guangzhou, China P.C 510335

In conformity with : GB/T 28001-2011 idt OHSAS18001:2007
 Certification scope: The occupational health and safety management activities of the development and sales of PVC flooring materials
 Issue Date: Jun 26,2017 Expiry Date: Jun 25,2020
 First Issue Date: Jun 26,2017


General Manager: 



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ISO9001 International quality system certification

ISO14001 International Environmental Management System Certification

Occupational Health and Safety Management System Certificate

ISO

03



LVT Floor Product Introduction

About LVT Flooring Products

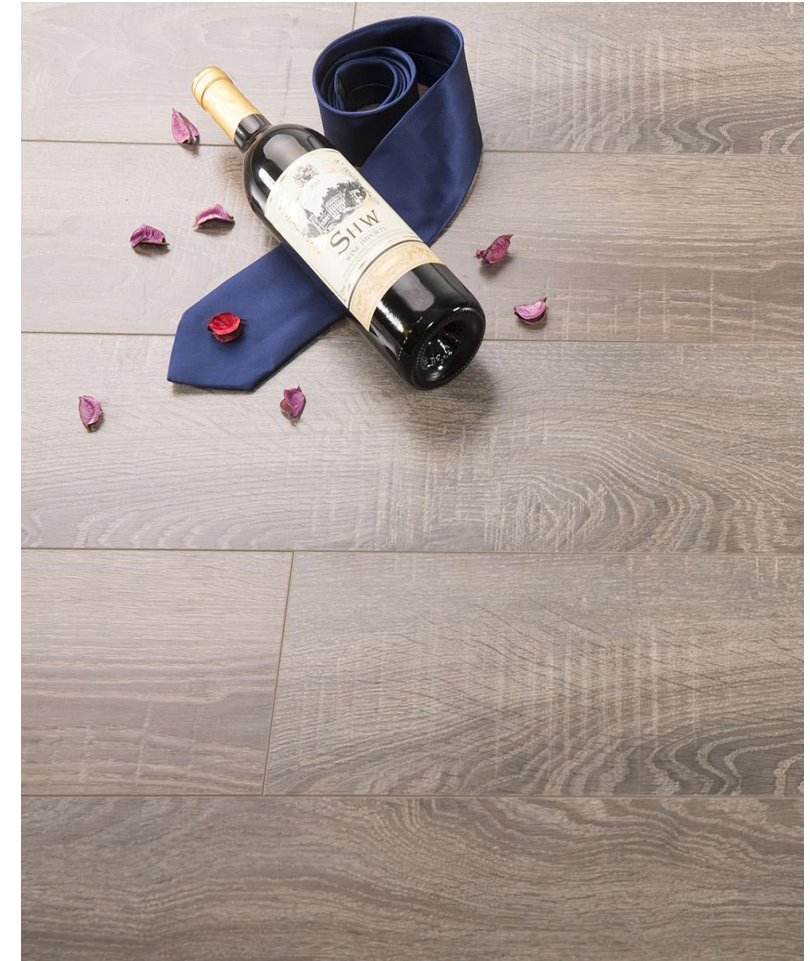


Plastic flooring, currently several common names are PVC/LVT/LVP/WPC/SVP, the ingredients are PVC resin powder, stone powder, plasticizer, stabilizer, carbon black, the main ingredients are polyvinyl chloride and stone powder. According to the assembly method, it can be divided into: ordinary, lock, self-priming glue-free, LVT, WPC flooring is a semi-rigid sheet plastic flooring, SVP flooring is a hard sheet flooring. The three types of flooring are also in the stage of active promotion and rapid development in the domestic and foreign markets. This time, the main topic is LVT/WPC/SVP.

The main raw material for producing PVC flooring is polyvinyl chloride, which is an environmentally friendly and non-toxic renewable resource. It has long been used in people's daily lives, such as tableware, medical infusion tube bags, etc., and its environmental protection is not a concern.

The thickness and quality of the wear-resistant layer directly determine the service life of the floor. The standard test results show that a 0.5mm thick wear-resistant layer floor can be used for more than 10 years under normal circumstances, and a 0.7mm thick wear-resistant layer floor is enough to be used for more than 15 years. Because of its super wear resistance, this floor is becoming more and more popular in places with large traffic flow, such as hospitals, schools, office buildings, shopping malls, supermarkets, and transportation. (For the wear resistance of the wear-resistant layer, the main indicator is currently the loss, that is, the reduction in mass)

LVT (PVC) floor is soft in texture, so it has good elasticity and has good elastic recovery under the impact of heavy objects. At the same time, LVT floor has strong impact resistance and has strong elastic recovery for heavy impact damage without causing damage. Excellent LVT floor can minimize the damage to the human body caused by the ground and disperse the impact on the feet. The latest research data shows that after the excellent LVT floor is installed in a space with large traffic flow, the rate of falls and injuries of people is reduced by nearly 70% compared with other floors.



LVT floor product features



LVT (PVC) floor is soft in texture and has good elasticity. It has good elastic recovery under the impact of heavy objects. At the same time, LVT floor has strong impact resistance and has strong elastic recovery for heavy impact damage, and will not cause damage. Excellent LVT floor can minimize the damage to the human body and disperse the impact on the feet. The latest research data shows that after installing excellent LVT floor in a space with a large flow of people, the rate of falls and injuries is reduced by nearly 70% compared with other floors.

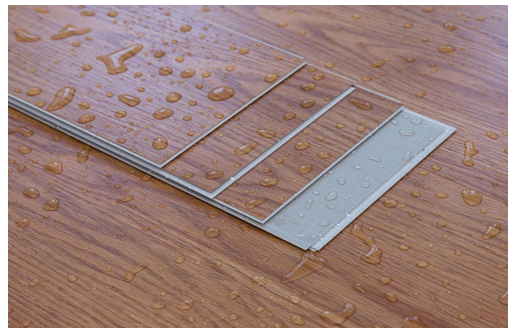


Safety: fireproof, anti-slip, environmentally friendly

LVT flooring has a fireproof index of B1, second only to stone;

The surface anti-slip layer is R9 anti-slip and will not slip when exposed to water;

No formaldehyde, no benzene, no heavy metals, fully in line with EU and US export standards;



Durable: Waterproof and moisture-proof
LVT flooring is mainly composed of vinyl resin, which has no affinity with water. Therefore, it is naturally not afraid of water and will not be damaged as long as it is not soaked for a long time; and it will not become moldy due to high humidity.



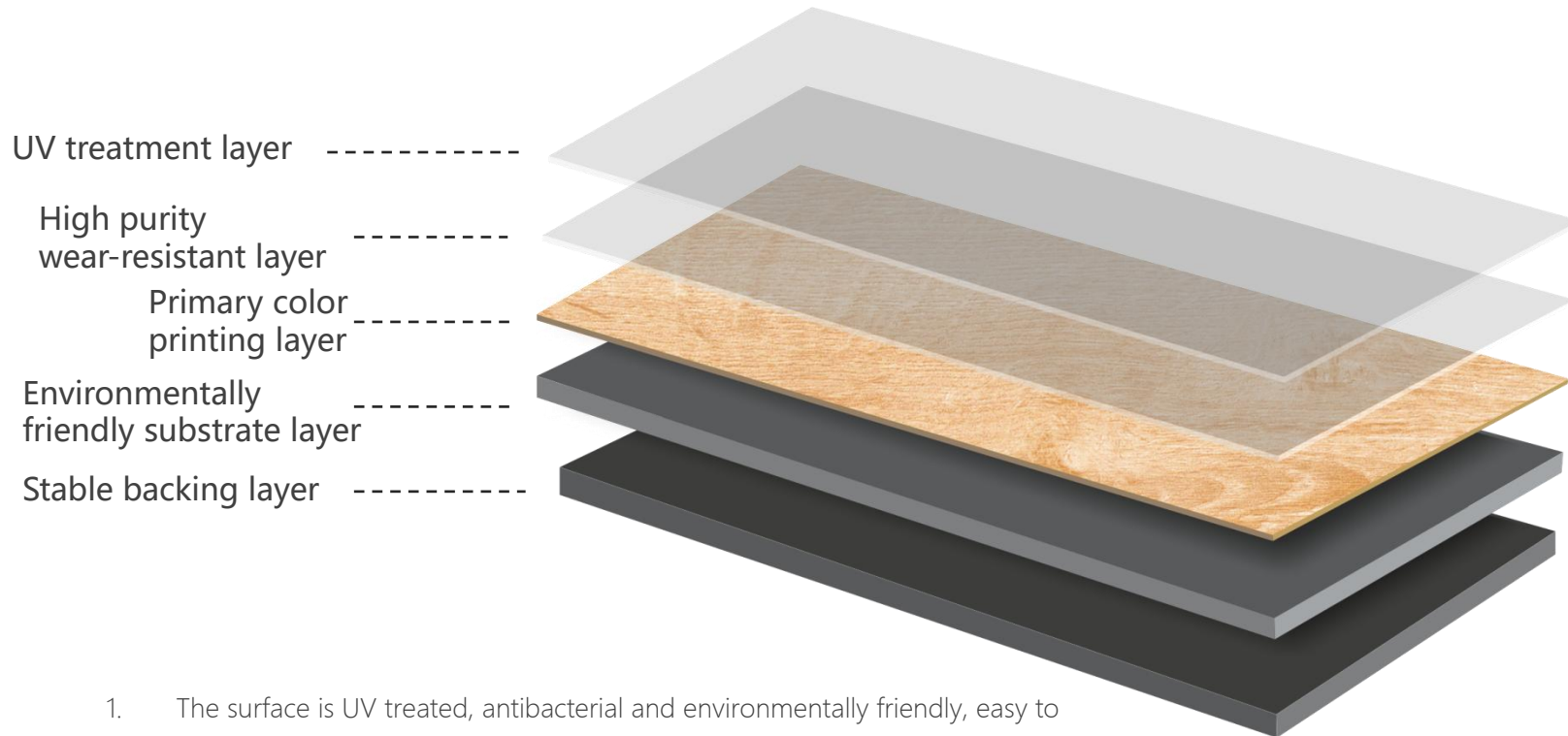
Convenient: Convenient construction and simple maintenance
LVT flooring materials are light, with high construction efficiency, saving construction time and labor costs;
Easy maintenance, only daily cleaning is required, and the maintenance cost is low.



Comfort: Sound absorption and noise reduction

LVT flooring is soft and elastic, light and thin, so you won't feel cold when walking on it, and it won't hurt your joints when standing for a long time.

LVT floor product structure



UV treatment layer
High purity wear-resistant layer
Primary color printing layer
Environmentally friendly substrate layer
Stable backing layer

1. The surface is UV treated, antibacterial and environmentally friendly, easy to clean, and wax-free;
2. The latest close-fitting calendering technology enhances the stability of the product, which is superior to similar products;
3. The high-purity wear-resistant crystal is matched with the unique drilling and solidification technology, which makes the product have strong wear resistance;
4. The primary color transfer printing technology ensures flawless surface observation, high fidelity, and ultra-clear.

Raw materials:

PVC powder, calcium powder, plasticizer, additives, etc.

Calcium powder:

Guangxi calcium powder, low silicon content, less mechanical wear;

High calcium content, easier to blend with PVC powder; good whiteness.

Plasticizer:

DOTP (dioctyl terephthalate): Compared with DOP, it is more cold-resistant, more heat-resistant, less volatile, anti-extraction, and softer;

D-81: Plant plasticizer, greatly improves product stability.

LVT floor product parameters

Project	Test Standards	SPC	LVT	GB
Size	EN649:2011/EN430	182x1220, 12" x24"	6" x36" , 7.25" x48" , 18" x18"	
Total thickness	EN649:2011/EN428	4.0/5.0/6.0mmCustomizable	2.0/3.0/4.0/5.0mmCustomizable	
Wear layer thickness	EN429	0.2~0.7mm/8~28milCustomizable	0.2~0.5mm/8~28milCustomizable	
weight	EN649:2011/EN430	≥2000kg/m ³	≥1720kg/m ³	
Peel resistance	Wear layer greater than 0.2mm	When the sample size is 100*50mm, the result is vertical ≥80N horizontal ≥80N	When the sample size is 100*50mm, the result is vertical ≥70N horizontal ≥70N	When the sample size is 100*50mm, the result is vertical ≥50N horizontal ≥50N
Dimensional stability	ISO23999	80°C, ≤0.08%	80°C, ≤0.15%	80°C, ≤0.25%
Residual Depression	EN433	0.15≤ls≤0.4mm	0.15≤ls≤0.4mm	0.15≤ls≤0.4mm
Curl after heating	ISO23999	heating80°C, ≤1.2mm	heating80°C, ≤1.2mm	heating80°C, ≤2.0mm
Chemical resistance	EN433	Excellent	Excellent	Excellent
Surface scratch resistance	g	≥2200	≥2200	≥2200
Color fastness	EN ISO105-B02:2012	≥Grade 6	≥Grade 6	≥Grade 6
Wear resistance grade	EN660-2	Grade T	Grade T	Grade T
Stain resistance	ISO26987	No obvious traces	No obvious traces	No obvious traces
Fire resistance	GB8624-2006	Grade Bf1-s1	Grade Bf1-s1	Grade Bf1-s1
Anti-slip performance	EN13893,DIN51130	R9	R9	R9
Modulus of rupture	EN432	Horizontal ≥80N; Vertical ≥80N		
Click to lock tension		Horizontal ≥180N; Vertical ≥160N		
Heating cycle stability	80°C ±15°C	Shrinkage ≤ 0.08mm	Shrinkage ≤ 0.15mm	Shrinkage ≤ 0.25mm
Suitability of castor chairs	EN425	Suitable	Suitable	Suitable

04



Product application scenarios

LVT floor main products

8 classic wood grain products



oak102



oak120



oak103



oak106



oak219



oak109



oak119



oak107

LVT floor application range



office



Hotel



School



Mall



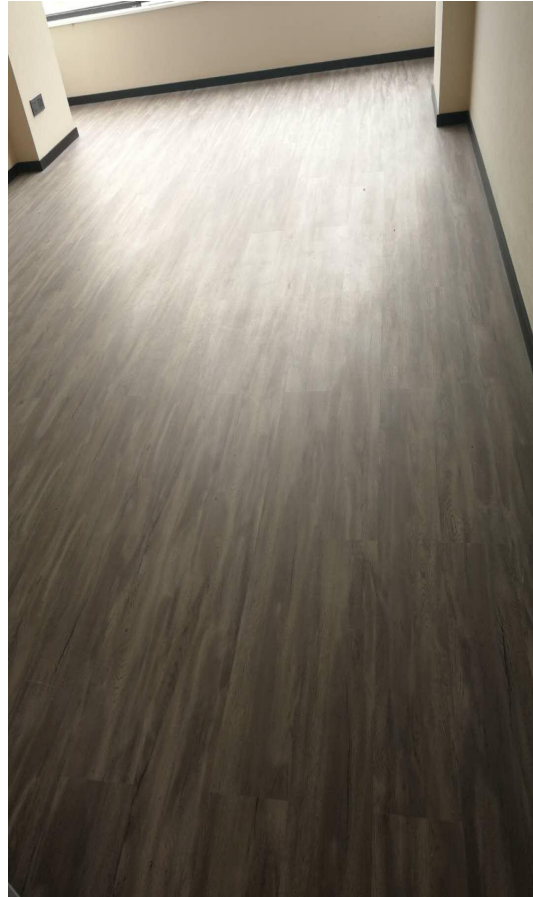
Restaurant



Hospital

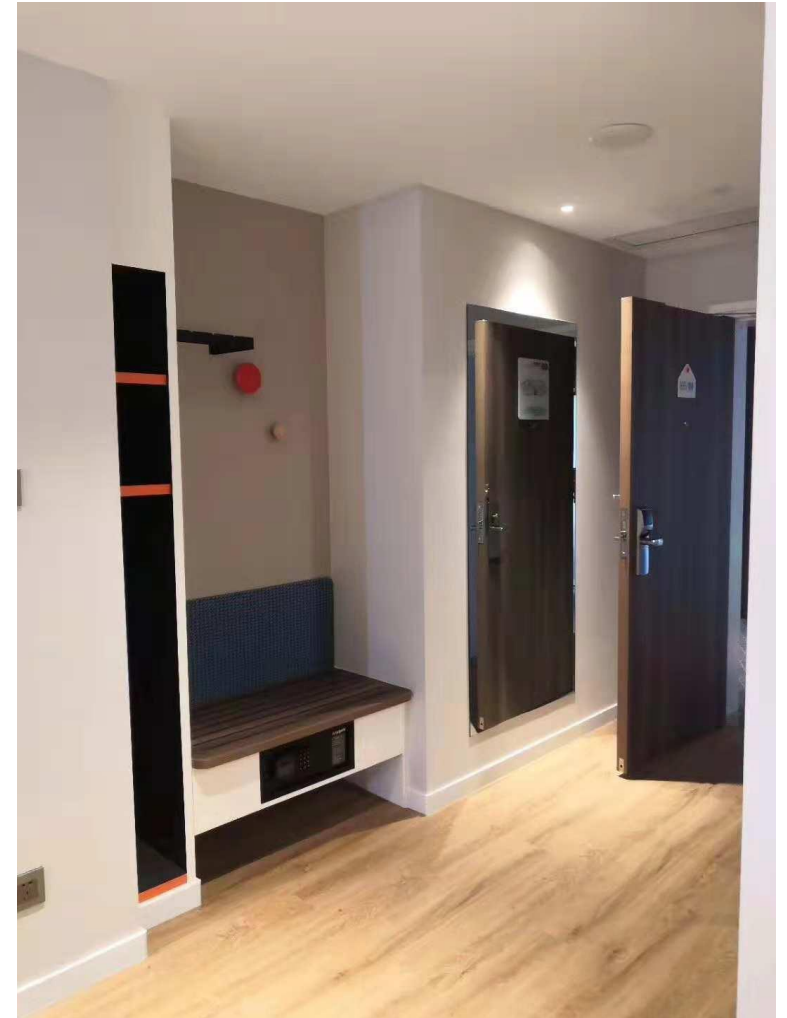
LVT floor application range

Alibaba Talent Apartment

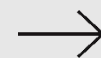


LVT floor application range

Guangzhou City Express Hotel



05



Construction plan



LVT floor construction preparation

1. Ground inspection

Flatness: The ground must be flat, and the height difference within 2 meters should not exceed 3mm, otherwise it needs to be leveled with self-leveling cement;

Dryness: The moisture content of the ground must be less than 4.0%, which can be tested with a hygrometer;

Cleanliness: Remove dust, oil, and debris from the ground to ensure that there is no residue.

2. Environmental requirements

Temperature: The construction environment temperature must be between 15°C-30°C to avoid high or low temperatures affecting the viscosity of the glue;

Humidity: The relative humidity should be controlled at 40%-70%. Too high may cause the glue to not dry;

Ventilation: The construction area must be well ventilated to avoid the accumulation of glue volatiles.

3. Material preparation

Floor pre-laying: Place the LVT floor in the construction environment for 48 hours to adapt to the temperature and humidity;

Glue: Use special PVC roll glue (bonding strength greater than 0.6MPA), avoid using inferior glue and glue with low bonding strength, which may cause debonding or warping;

Interface agent: For floors such as tiles, marble, and epoxy, use non-absorbent interface agents. The original floor must be roughened, and cement floors use absorbent interface agents;

Self-leveling cement: For LVT floors with a wear-resistant layer of 0.2, use self-leveling cement with a compressive strength of more than 20MPA, and for LVT floors with a wear-resistant layer of more than 0.3, use self-leveling cement with a compressive strength of more than 25MPA.

LVT floor construction steps

1. Floor treatment

Use a grinder or sandpaper to treat the raised part of the floor to ensure flatness;
Apply interface agent to enhance the adhesion between the floor and self-leveling cement.

2. Self-leveling construction

Mix self-leveling cement according to the proportion, pour and scrape evenly, and control the thickness to 2-5mm;
Drying time is at least 24 hours to ensure complete curing.

3. Floor laying

Line positioning: Use ink line to pop out the center line of the room as the laying reference;

Glue application: Use A2 toothed scraper to evenly apply glue, with a thickness of about 0.5mm, and let it stand until the glue surface is dry (control of glue opening time is very important);

Floor laying: Start from the center line and lay it around, compact it with a 50-70kg roller or tap the floor with a rubber hammer to ensure full contact with the ground;

Joint treatment: Leave a 0.1-0.2mm gap between the floors to avoid arching caused by thermal expansion and contraction.

4. Edge treatment

Use special skirting or edge strips to treat the edges to ensure beauty and moisture resistance;

LVT floor construction acceptance standards

1. Appearance inspection

- The floor surface should be clean and free of scratches, bubbles, color difference and other problems.

2. Flatness

- Use a 2-meter ruler and a feeler gauge to check, the flatness deviation should be less than 2mm.

3. Joint quality

- The joints should be flat and tight, without obvious height difference (joint height difference $\leq 0.3\text{mm}$).

4. Bonding firmness

- The floor and the base should be firmly bonded, without hollowing or warping.

5. Environmental protection

- The floor should meet national environmental protection standards, no odor, no toxicity.

6. Functional test

- Wear resistance: Use wear equipment to test to ensure that the wear-resistant layer meets the requirements.
- Anti-slip: Use a friction coefficient tester to test to ensure that the anti-slip performance meets the standards.

LVT floor maintenance



1. Daily cleaning

1. Tool selection

- Use a soft-bristled broom, vacuum cleaner (with a soft-bristled brush head) or slightly damp mop for cleaning;
- Avoid using hard brushes or steel wool to avoid scratching the floor surface.

2. Cleaning frequency

- Sweep once a day to remove dust and grit to prevent particles from wearing the floor;
- Wipe with a slightly damp mop once a week to keep the floor clean.

3. Use of cleaning agents

- Use neutral cleaning agents (such as special PVC floor cleaning agents with a pH value of 6-8);
- Avoid using strong acid or alkaline cleaning agents or wax or oil-containing products to avoid damaging the floor surface.

II. Treatment of stubborn stains

1. Oil stains

- Dilute with a neutral cleaning agent and wipe, then rinse with clean water;
- Avoid using organic solvents such as gasoline and thinner.

2. Ink or paint

- Wipe immediately with a damp cloth to avoid stain penetration.
- If it has dried, gently wipe with a small amount of neutral cleaning agent.

3. Gum or glue stains

- Freeze with ice cubes and gently scrape off, then wipe with a damp cloth.



Common problems and solutions for LVT floor construction

1. Warping edge

- Cause: uneven glue application, dust on the ground not cleaned up or glue not fully dried;
- Solution: clean the ground again, apply glue evenly, and ensure that the glue is half dry before laying the floor.

2. Bubbling

- Cause: uneven ground base or substandard self-leveling construction quality.
- Solution: repair the self-leveling again and ensure that the ground is flat before laying the floor.

3. Surface scratches or wear

- Cause: improper use of tools during construction or insufficient protection of the floor surface.
- Solution: use special repair paste or wax to repair minor scratches, and replace the floor for severe wear.

4. Glue residue

- Cause: excessive glue application or failure to clean up in time.
- Solution: use a special cleaner to remove residual glue.



THANKS

**Heshan Merbau Decorate New
Materials Co., Ltd.**