

Emerging trend in tile industry: SPC tiles

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Abstract

A new chapter begins in the floor tile industry with SPC (Stone Plastic Composite) flooring. This advanced flooring solution is made using Limestone powder, Polyvinyl Chloride (PVC), and stabilizers as the key raw materials. As a next generation product, SPC combines strength, beauty, and sustainability. It is 100% recyclable and designed in compliance with international REACH and ROSH regulations, making it safe and ecofriendly. SPC tiles and planks are offered in different thickness ranges (4 mm, 4.5 mm, 5mm, 5.5mm, 6 mm) with 1mm IXPE layer (Irradiation Cross Linked Polyethylene Form Layer), providing customers with a wide array of stylish choices. While offering superior performance and durability SPC products are competitively priced, ensuring excellent value for money prospects.



Figure 1: Product Range

What is SPC?

SPC (Stone Plastic Composite) is the latest innovation in resilient flooring. It has quickly gained popularity in both residential and commercial markets due to its rigid core technology.

SPC flooring realistically mimics natural wood and stone surfaces, with a wide range of embossed designs. It is available in multiple shapes and sizes, such as tiles and planks, and is highly resistant to water, impact, and wear with easy installing principals.

Although SPC is a relatively new entrant to the flooring industry. It has been gaining rapid market share across Asia, Europe, and North America due to its durability and premium appearance.

Construction of SPC

SPC flooring is engineered with multiple functional layers of PVC vinyl, natural limestone powder, and protective coatings. Each layer plays a key role in enhancing the strength, appearance, and performance of the final product.

UV Coating Layer

The top layer provides protection against scratches, stains, and fading. It also offers matt or glossy finishes, low volatility, and anti slip properties.

Wear Layer

Placed beneath the UV coating, the wear layer protects the decorative film and ensures long lasting durability. It withstands heavy use and foot traffic, making SPC ideal for commercial as well as residential areas.

Design Layer

This is the printed decorative film that gives SPC its luxurious, natural look. Thanks to advanced printing and embossing technology, SPC surfaces look almost identical to real wood, marble, or stone.

Rigid Core Layer (SPC Core)

The heart of SPC flooring is its rigid core made of limestone powder, PVC, and stabilizers. This layer provides dimensional stability, resistance to temperature fluctuations, waterproofing, and impact strength. Unlike traditional vinyl, SPC does not expand or contract easily, making it highly stable.

Bottom Layer / Underlayment

This is the foundation layer, designed for sound absorption, cushioning, and better adhesion. Some SPC products come with an attached IXPE or EVA foam underlayment to enhance comfort and reduce noise.

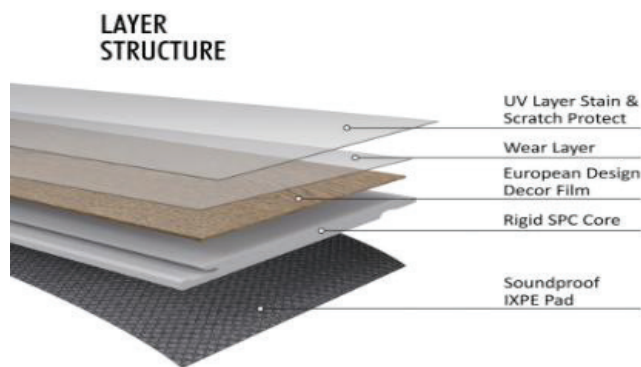


Figure 2: Layers of SPC

Benefits of SPC

- 100% Waterproof – Can be used in kitchens, bathrooms, and basements.
- Durable & Rigid – Stronger than traditional vinyl due to its stone core.
- Ecofriendly & Recyclable – Manufactured with environmentally friendly materials.
- Cost Efficient – Affordable compared to hardwood and natural stone.
- Scratch & Stain Resistant – Protective UV coating ensures long life.
- Comfortable & Quiet – Optional foam backing reduces sound and increases comfort.

KEY FEATURES

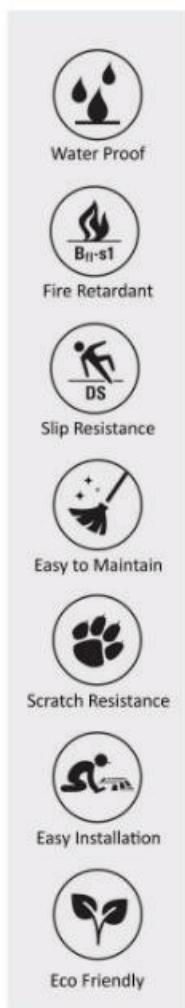


Figure 3

SPC can be used in:

Wide Range of Designs – Realistic wood, marble, and stone textures. Chemical Resistant – Resistant to household chemicals, oils, and detergents.

Hygienic – No grout lines; easy to clean and maintain.

Easy Installation – Can be installed with a click-lock system or glued down.

Spatiality of click lock

This provides an easy, fast and adhesive free installation method perfectly suited to SPC's unique properties.



Figure 4

Uniclic is a premium, patented locking system for SPC flooring that is superior to generic click lock options primarily due to its stronger, more stable joints, grater installation, flexibility and proven reliability over time. While many SPC floors have a click lock system, Global vinyl we use this specific, European high end patented design for our SPC floorings.

Trending of SPC

SPC flooring is highly versatile and can be installed on almost any subfloor, including concrete, ceramic tiles, or wood. Also, these floorings can be used on walls, and it has become a popular design trend. Rigid core technology ensures the floor remains stable in both wet and dry environments. Its waterproof, chemical resistant, and impact proof nature makes SPC a perfect choice for high traffic and high moisture environments.

- **Offices and showrooms**



Figure 5

- **Homes (living rooms, bedrooms, kitchens, bathrooms)**



Figure 6

- **Hotels and restaurants**



Figure 7

- **Wall installed SPC floorings**

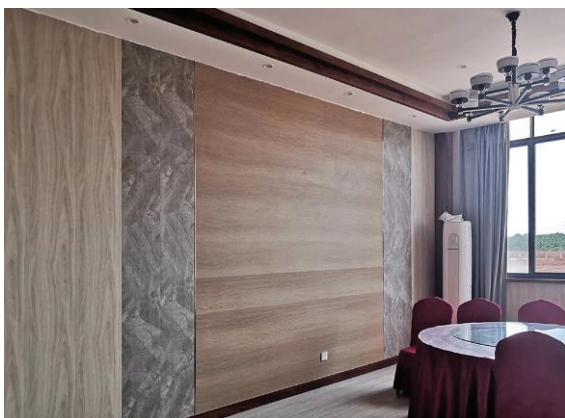


Figure 8

Research and Development Side of SPC

SPC is manufactured under strict international standards to meet export requirements. During production, several critical properties are carefully monitored.

- ✓ **Dimensional Stability (ISO 23999)**

SPC does not expand or contract significantly with temperature changes.

- ✓ **Deformation Resistance (ISO 178)**

It quickly recovers from impact and heavy loads.

- ✓ **Bonding Strength (ISO 4587)**

Advanced processes ensure strong adhesion between layers.

- ✓ **Thickness Options**

Higher thickness provides more durability and impact resistance.

- ✓ **Chemical Resistance (ISO 2812)**

SPC resists common household chemicals such as detergents, vinegar, grease, and oil.

Recyclable Product

SPC flooring is a 100% recyclable product. Scrap and process waste generated during production can be reprocessed into new SPC boards, making it an ecofriendly flooring choice for the modern consumer.



Figure 9

About Our Company

With decades of experience in the PVC and flooring industry, our company is a leading manufacturer of SPC and LVT flooring. We produce high quality, ecofriendly flooring products that meet international REACH and ROHS standards, ensuring durability, sustainability, and customer satisfaction.

