



long afterglow luminous gravel

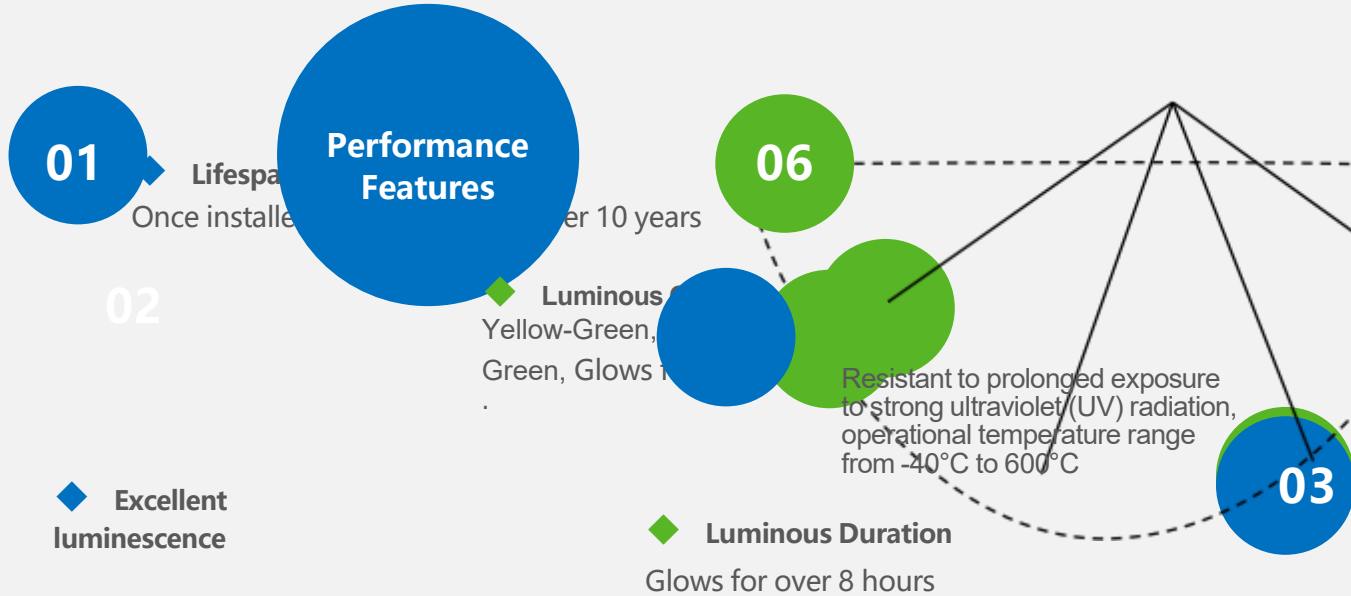
JUNTING

Phosphorescent gravel, commonly known as glow gravel, is produced by using our company's high-temperature resistant long afterglow luminescent pigment and glass high-temperature sintering, then **naturally crushed into irregular granular shapes resembling gravel**. This product can continue to emit light **for more than 8 hours** at night after absorbing light for **10 minutes**. The luminescent colors are vibrant and varied, with a rich variety of options. They can be used to complement and adorn various scenes. It is currently widely used in **greenway parks, bike paths,**

hiking trails, etc. It can also be distributed **in aquariums, flower pots, landscape terraces**, etc. The luminescent gravel provides visibility and glowing effects during the night, Not only does it enhance illumination, but it also provides a **comforting sense of safety for people**. It also serves an **aesthetic purpose**, adding to its visual appeal , Thus, it significantly improves the **visual environment** ; And it creates a **romantic atmosphere**, making many places popular destinations for visitors because of the installation of luminescent gravel.

Performance Characteristics

- ◆ **Safety and environmental protection**
Non-toxic, harmless, and non-radioactive





Technical specifications

Material	Model Number	Size(mm)	Luminous Colour	Luminosity(mcd/m ²)		Glow Showcase	
				10 (min)	60 (min)		
Inorganic Gravel	JTST-G0205H	2-5	Yellow-Green	524	51		
	JTST-G0508H	5-8		524	51		
	JTST-G0812H	8-12		524	51		
	JTST-B0205H	2-5	Blue-Green	639	88		
	JTST-B0508H	5-8		639	88		
	JTST-B0812H	8-12		639	88		
	JTST-S0205H	2-5	Sky Blue	208	27		
	JTST-S0508H	5-8		208	27		
	JTST-S0812H	8-12		208	27		

Remarks: 1. Sizes can be customized according to actual application needs, with a maximum size of 25-50mm.



Construction classification

1. Anti-slip ceramic particle self-illuminating pavement construction technology

2. Construction technology of permeable concrete self-illuminating pavement

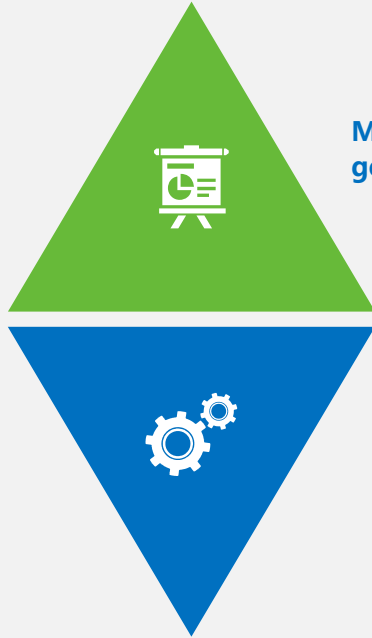
3. Construction technology of adhesive stone self-illuminating pavement

4. Patterned pavement construction technology

5. Construction technology of colored asphalt self-illuminating pavement



Performance requirements for self-luminous road surfaces



Mechanical requirements for general road surfaces

Certain luminous properties

- Certain compressive strength
 - Certain toughness
 - Wear resistance
 - Weather resistance
 - Water resistance
 - High temperature and low-temperature resistance
 - Certain impact resistance
 - Certain hardness
 - High friction coefficient on the surface, etc.
-
- Continuous luminescence for 12 hours or more
 - Light intensity meets road illumination requirements



Anti-slip ceramic particle self-illuminating pavement construction technology

The anti-skid ceramic particle luminous road surface has been widely used in the paving of greenways, pedestrian paths, plazas, parks, and sports venues. Whether it is previously laid asphalt or newly laid cement road surface, the construction can be carried out. The thickness of the ceramic particle road surface is generally specified as follows:

1. The thickness of bicycle lanes is 1.5-2.5mm.
2. Highways are 3-5mm thick.

Grinding of the cement or asphalt base,
Cleaning, application of penetrating primer by roller coating, one layer.

Cleaning

Layout

According to the design layout (if there is no design layout, this step is not required)

Apply adhesive

Apply specialized adhesive for ceramic granule sand, Sprinkle a small amount of ceramic particles.

Sprinkle quantity

Sprinkle luminescent particles according to design specifications (paying attention to quantity and density)

Protection

After 4 hours, remove any ceramic particles that haven't adhered to the surface, and protect the finished product.



Construction technology of permeable concrete self-illuminating pavement



01

Substrate preparation

Before the construction of the surface layer of colored permeable concrete luminous road, the base should be cleaned. After treatment, the surface of the base should be rough, clean, free of standing water, and should maintain a certain level of moisture.

02

Material mixing

Mixing should be done using a compulsory mixer, with the capacity selected based on parameters such as project volume, construction progress, construction sequence, and transportation tools. The time from the new mixed concrete leaving the mixer to reaching the working surface should not exceed 30 minutes.

The concrete should be mixed using the method of cement-wrapping stones. First, add the aggregates and 50% of the required water to the mixer and mix. Then, add the cement and pigment powder. Finally, add the remaining water and mix until discharged.

03

Brick paving construction

The permeable concrete mixture should be spread evenly, with the smoothness and drainage slope meeting the requirements. A polishing machine should be used for compaction, completing the first pass of polishing. Then, high-gloss resin luminous stones should be sprinkled for decoration. The spreading density should be controlled according to the design requirements (generally recommended to use 0.5-1 kg for starry sky effects). Smooth the surface. (Using yellow-green and blue-green colors for paving gives the best effect.) Finally, use a finishing machine for compaction.

A finishing machine should be used to finish the surface layer of permeable concrete. If necessary, manual compacting and leveling should be carried out. The surface finish should meet the design requirements for smoothness.

04

Curing of the finished product

After the construction of the permeable concrete road surface is completed, curing should be carried out using methods such as covering with plastic film or geotextile to prevent rapid evaporation of surface moisture.

The curing time should be determined based on the strength development of the permeable concrete, and it should not be less than 7 days. After the curing period, cut expansion joints, apply sealant, and spray a special transparent protective coating on the surface layer.

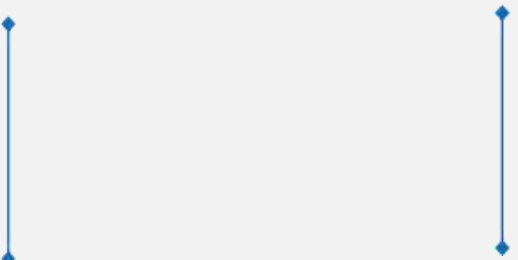
The construction process of adhesive luminous stone self-luminous road surface

Application areas: 20-30mm adhesive luminous stone surface is suitable for bicycle greenways, pedestrian pathways in residential areas, school sports fields, commercial plazas, park squares, and various types of walking trails. Characteristics: Bright colors, permeable.

Based on adhesive luminous stone, the surface layer is laid with a thickness of 2-3cm.

After the road surface dries, remove the molds for shaping. Mix luminous stones with special adhesive and fill them evenly into the molds.





ed stainless steel borders or PVC panels
ern shaping. Mix luminous stones with
e evenly, tamp and level manually,
ting the first light collection pass. Use
mately 35-40kg of adhesive for 20mm
ss, with 0.25-1kg recommended for starry
adjusted as needed.

Pre-embed expansion joint strips, then
mechanically conduct the second pass for light
collection, ensuring compliance with design
flatness requirements.



Patterned road surface construction technique





Patterned road surface construction technique

05

Filling granules

Fill the molded shapes with mixed luminous granules after removing the grinding tools. Granule sizes can range from 2 to 8mm. Flatten them after placement.

06

Cover with a film

Cover with film to protect the product

07

Maintenance spray

After the maintenance period, cut expansion joints and seal them with adhesive. Spray a layer of specialized transparent protective coating.

Suitable for : New urban roads with light traffic, green forest trails and pedestrian pathways, school sports fields, various exhibitions, park squares, and more.



Construction completed

Advantages: It offers both water permeability and aesthetic appeal, showcasing a significant luminous effect. It allows for intricate patterns and designs to be created.

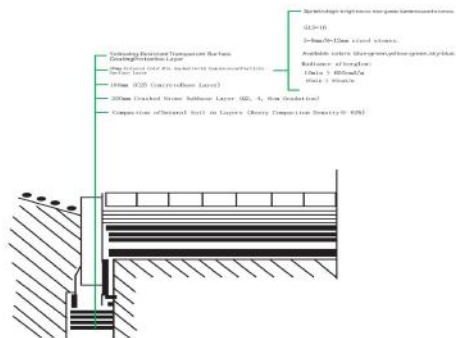


Colored asphalt self-luminous road surface construction technique

Laying of self-luminous road surface

The road surface is divided into two layers: the base layer and the surface layer. Both layers have different formulas but are constructed simultaneously.

Cold Mix Colored Asphalt Self-luminous Road Cross-section Diagram



Base layer construction

When mixing colored asphalt mixture, first pre-mix the asphalt with the medium and maintain a temperature of 80~90°C. Then add the preheated sand and gravel at 90~110°C and mix. Meanwhile, heat the epoxy resin to about 80°C and the curing agent to 60°C. After mixing the epoxy resin with the curing agent, add it to the sand and gravel mixture and continue mixing until uniform. The discharge temperature should be 90~100°C. At this temperature, the epoxy asphalt mixture has a workable time of 2 hours. Beyond 2 hours, the mixture begins to harden due to the chemical reaction of the epoxy resin, curing agent-modified asphalt, and aggregate during mixing. This reaction gradually increases the viscosity of the binder, so it's necessary for the epoxy asphalt mixture to be laid and compacted before its temperature drops below the specified minimum. Failure to comply with these regulations and maintain the mixture temperature within the specified mixing temperature range will result in the mixture becoming a hardened, inoperable mass. Therefore, temperature control and time control are crucial during the mixing process of epoxy asphalt mixtures. Ultimately, the epoxy resin accounts for approximately 15%.

Surface layer construction

Sand and stone 10%, asphalt 30%, epoxy resin and curing agent 30%, encapsulated luminescent pigment 30%, with a radius of 5-15µm, and a surface layer thickness of about 5mm. Mix the luminescent pigment with epoxy resin first, then proceed with the same process as the base layer construction.



Completed Projects





Completed Projects





Packaging and Transportation

Packing and Shipping: 1. Five kilograms per plastic bag.

2. Packaged in 25-kilogram woven bags.

