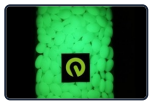
Technical Specification of Photoluminescent Glass Gravel & Pebbles

Overview of material series (PLE-O resin pebbles and PLE-SS glass gravel), size fractions, afterglow duration, and visual appearance in daylight and darkness in compliance with EU regulations (REACH, RoHS).

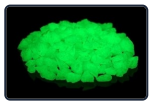
1. Photoluminescent Pebbles (PLE-O Series)

Material Base & Applications: High-durability resin material with uniformly dispersed rare-earth alkaline earth aluminate pigment. Smooth pebble shape, high impact resistance, UV stability, and full weather and water resistance. Suitable for landscape architecture, walkways, terraces, aquariums, and interior design.

Product Type	Model Code	Dimensions (cm)	Afterglow Time	Glowing Color (Night)	Appearance (Daytime)
PL Pebbles Resin Material	**PLE-O-Z300**	3.0 × 2.0 × 1.0	**~ 12 hrs**	 **Yellow-Green**	 **Light Yellow**
	PLE-O-M300	3.0 × 2.0 × 1.0		 **Blue-Green**	 **Off-White**

2. Photoluminescent Glass Gravel – Glass Material (PLE-SS Series)

Material Base & Applications: Fused photoluminescent glass offering superior hardness, abrasion resistance, and chemical stability. Ideal for polished terrazzo flooring, architectural concrete, swimming pool finishes, facade renders, and heavy-duty pedestrian or vehicular surfaces.

Product Type	Model Code	Fraction (cm)	Afterglow Time	Glowing Color (Night)	Appearance (Daytime)
PL Glass Gravel Glass Material	**PLE-SS-Z100**	0.8–1.2	**~ 12 hrs**	 **Yellow-Green**	 **Light Yellow**
	PLE-SS-Z50	0.4–0.8			
	PLE-SS-Z20	0.1–0.4			
	PLE-SS-M100	0.8–1.2		 **Blue-Green**	 **Off-White**
	PLE-SS-M50	0.4–0.8			
	PLE-SS-M20	0.1–0.4			

3. Overview of Available Variants

- **PLE-O** – Resin pebbles (dimensions 3.0 × 2.0 × 1.0 cm)
- **PLE-SS** – Glass gravel (fractions 0.1–0.4 / 0.4–0.8 / 0.8–1.2 cm)
- **Color Options:** Yellow-green or blue-green afterglow (light yellow or off-white daytime appearance)

Technical Notes, Custom Sizing & European Standards

1. **Custom Sizes & Fractions:** In addition to the standard dimensions listed in the tables above, custom particle fractions and shapes of photoluminescent aggregates can be produced and graded according to specific project or client requirements.
2. **Charging & Afterglow Duration:** Materials charge rapidly under natural daylight or artificial lighting (LED, fluorescent, UV). After 10–15 minutes of excitation, they reach full saturation and emit a visible afterglow for up to 12 hours (tested according to **DIN 67510-1** down to the human eye perception threshold of 0.32 mcd/m^2).
3. **Application Guidelines:** To ensure maximum transmission of both excitation and emitted light, use transparent binders (clear epoxy or polyurethane resins, white cement). When using **PLE-SS** glass fractions in terrazzo, surface grinding and polishing are recommended to expose the aggregates.
4. **Safety & EU Regulatory Compliance:** All pebbles and glass gravels are non-toxic, non-flammable, completely free of radioactive substances and heavy metals, and fully comply with European Regulation **REACH (EC No. 1907/2006)** and Directive **RoHS (2011/65/EU)**.