

Environmental Standards for Stonefloor

Stone Floor (a premium-grade SPC variant) Stone Floor generally adheres to far stricter internal control standards, boasting higher overall environmental ratings and tighter limits on harmful substances. primarily evaluated on four key criteria: formaldehyde emission, VOCs, heavy metals, and environmental certifications.

1. Core National Environmental Standards (GB/T 39600-2021, China)

Classified by formaldehyde emission levels (1 m³ climate chamber test method):

- ENF Grade (Highest): ≤ 0.025 mg/m³ (Extra No Formaldehyde, no added formaldehyde)
- E0 Grade: ≤ 0.050 mg/m³ (Ultra-low emission)
- E1 Grade (Mandatory Minimum): ≤ 0.124 mg/m³ (Basic indoor safety threshold)

2. Environmental Rating Comparison: SPC vs. Stone Floor

Formaldehyde Emission (Core Indicator)

	Standard SPC Flooring	Stone Floor (Premium SPC)
Formaldehyde Emission (Core Indicator)	<ul style="list-style-type: none"> • Compliant: E1 Grade (≤ 0.124 mg/m³) • High-quality: E0 Grade (≤ 0.050 mg/m³) • Raw materials: 50–70% limestone powder, partially containing recycled PVC 	<ul style="list-style-type: none"> • Mainstream: ENF Grade (≤ 0.025 mg/m³) • High-end: Non-detectable (< 0.005 mg/m³) • Raw materials: 75–85% high-calcium limestone powder + food-grade virgin PVC, glue-free manufacturing process
VOC (Volatile Organic Compounds)	<ul style="list-style-type: none"> • Compliant ≤ 1.5 mg/L (E1 level) 	<ul style="list-style-type: none"> • ≤ 0.5 mg/L (ENF level), with stricter controls on benzene, toluene, and phthalates
Heavy Metals (Lead, Cadmium, etc.) National standard: ≤ 100 mg/kg	<ul style="list-style-type: none"> • Mostly compliant; risk of non-compliance in low-cost products 	<ul style="list-style-type: none"> • ≤ 10 mg/kg or non-detectable

Other Safety Standards

- **Radioactivity:** Both must meet Class A ($IRa \leq 1.0$, $I\gamma \leq 1.3$)
- **Flame Retardancy:** Class B1 (Difficult to ignite, self-extinguishes when removed from fire)

3. International Authoritative Environmental Certifications

- FloorScore (US): Strict VOC and formaldehyde limits, high safety for commercial/residential use
- GREENGUARD GOLD: Maternity/infant & hospital grade, ultra-low VOC emissions
- EU CE / REACH: Prohibits lead salts, restricts harmful additives
- Blue Angel (Germany): One of the world’s strictest environmental certifications

4. Market Environmental Performance (2026)

- FloorScore/GREENGUARD

Summary

Standard SPC Flooring	Stone Floor (Premium SPC)
Basic environmental performance, primarily E1/E0 Grade	Premium SPC, standard ENF Grade, no added formaldehyde, low VOC, heavy metal-free, ideal for maternity/infant rooms, underfloor heating, and high-humidity whole-house applications

5. Stone Floor Environmental Performance

- Zero Formaldehyde
- Glue-free production, meets top ENF grade, no formaldehyde added at all.
- Ultra Low VOC & Odorless
- Adopts pure virgin materials, low volatile organics, no peculiar smell, safe for home and commercial spaces.
- Heavy Metal Free
- Food-grade raw material formula, lead and cadmium undetectable, compliant with EU REACH & GREENGUARD Gold.
- Physical Eco Production
- Pure high-temperature extrusion process, no chemical curing, no harmful by-products.
- Class A Radiation Safe

- j) Natural stone powder material, Class A radiation standard, safe for long-term indoor use.
- k) Waterproof & Anti-Mildew
- l) 100% waterproof, moisture-proof and anti-bacterial, no mold growth in humid areas.