
Natural Stone Radioactivity & Indoor Safety

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Published by: Hengsheng Marble S&T; Co., Limited

Version: V1.0 · 2026

Intended readers: tendering parties / supervisors

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Where Radioactivity Comes From

Natural radioactivity in stone originates mainly from Ra-226, Th-232, K-40 and their daughter product radon. Levels differ markedly by lithology: ultrabasic and carbonate rocks (marble, limestone) are generally low, while acidic igneous rocks (some red granites) are comparatively higher — yet all remain within classifiable, manageable ranges.

Classification and Limits (with reference to China GB 6566)

Class A: unrestricted use ($IRa \leq 1.0$ and $I\gamma \leq 1.3$) — achievable by the vast majority of marbles and mainstream granites.

Class B: not permitted for interior finishes of Class-I civil buildings; permitted elsewhere indoors and outdoors.

Class C: exterior finishes and other outdoor uses only.

HSST can provide batch-matched test reports for every shipped variety; Class A is the default requirement for interior projects.

Testing and Sampling Essentials

Ra, Th and K specific-activity measurements follow GB 6566 / EN methods; sampling must cover the actual quarry faces and batches supplied — never substitute outdated reports. For bulk projects, sample per batch and archive sealed samples.

Advice for Owners and Supervisors

State clearly in tender documents: batch-matched radioactivity test reports are mandatory deliverables; interior projects restricted to Class A; newly introduced varieties require testing before use. Indoor radon concentration also depends on ventilation and the ground beneath the building — stone is only one source, so assess rationally and avoid unnecessary alarm.