



How durable is durable?

USING DURABLE BUILDING MATERIALS FOR LARGE SCALE BUILDING PROJECTS IN ZIMBABWE.

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Durability is more than a technical spec on a material data sheet — it's a promise about how a building will perform over decades. For large-scale projects in Zimbabwe — from commercial buildings to institutional campuses, apartment blocks and cluster homes — choosing materials that last isn't just good practice, it's an investment in safety, cost-efficiency and the country's-built legacy. Yet, all too often we see cheaper, less durable choices made at critical moments. In this article I explain why that happens, what genuinely durable options look like, and why durable materials deserves far more attention from contractors, clients and designers in Zimbabwe.

Why Zimbabwean projects too often use less durable materials

Several recurring pressures push contractors and clients toward lower-quality, less durable materials:

- Up-front cost pressures: Many owners and project committees focus on the initial capital outlay rather than total cost of ownership. When budgets are tight, cheaper materials that meet minimum short-term needs look attractive. In the local lingo, the client will normally say the highly priced durable material “irikudhura” (it is expensive).
- Cash-flow and procurement practices: Fragmented procurement, delayed payments or value-engineering during construction can lead to substitutions for cheaper alternatives.
- Supply chain and availability: Some high-performance materials are harder to source locally; uncertainty about delivery times encourages the use of whatever is on hand.
- Skills and workmanship gaps: Durable materials often require specialist installation or quality control. If installers lack training, designers and clients choose materials they (incorrectly) believe are “easier.”
- Weak specification and supervision: Poorly written specifications and limited site supervision allow contractors to substitute lower-grade materials without obvious short-term penalties.

- Short planning horizons: Public and private clients sometimes prioritize quick delivery thus reducing appetite for higher-spec, longer-lasting solutions.
- Lack of awareness: Decision-makers may simply not be fully informed of the lifecycle benefits of more durable options — or of the long-term costs of frequent repairs.

Choosing materials that last isn't just good practice, it's an investment in safety, cost-efficiency and the country's-built legacy.

Understanding these drivers is the first step toward changing procurement culture. Now let's look at what counts as durable.

What materials are genuinely durable for large-scale construction?

Durability depends on material properties and correct design, detailing and installation. The following are widely recognized durable options when properly specified and executed:

- High-quality reinforced concrete (with the right cement, aggregates, water-cement ratio, admixtures and good curing): excellent compressive strength and resistance when reinforced and detailed correctly. Corrosion protection of reinforcement is vital.
- Weathering and treated structural steel (adequately protected from corrosion with coatings, galvanizing or cathodic systems): durable for frames, façades and cladding when corrosion is controlled.
- Natural stone and engineered stone (granite, engineered quartz, precast stone panels): very long life, minimal maintenance.
- Terrazzo (cementitious or epoxy matrix with marble/stone aggregates): extremely hardwearing, repairable and aesthetic.
- High-quality ceramic and porcelain tiles

(properly installed with suitable adhesives and grouts): durable for finishing surfaces.

- Correctly treated hardwoods and engineered timber (for cladding and joinery; durability depends heavily on treatment and detailing).
- High-performance waterproofing membranes and sealants: essential to protect any durable finish and structure from moisture damage.

Remember: even the most durable material will fail early if design, detailing or workmanship are poor. Durability is a system, not a single choice.



Materials can both be durable and look good at the same time.

Terrazzo

What it is and how durable it really is!!

You asked about Terrazo (usually spelled Terrazzo) — and for large projects it's an outstanding option.

What is Terrazzo?

Terrazzo is a composite surface material consisting of chips of marble, quartz, granite, or recycled glass embedded in a binder (traditional cementitious binders or modern epoxy resins). Once poured and cured it is ground and polished to a dense, continuous finish.

Durability characteristics:

- Hardness and wear resistance. Properly installed terrazzo creates a surface that resists abrasion far better than conventional tiles or many natural

- Seamless, monolithic surface. Fewer joints mean fewer weak points for water, dirt and movement — reducing maintenance and risk of localized failure.

- Repairability and renewability. Scratches, chips or stains can be ground and repolished in situ; small repairs blend nearly invisibly.

- Dimensional stability. When poured over appropriate substrates with movement joints and correct detailing, terrazzo can last for decades without significant dimensional change.

- Low porosity (especially epoxy terrazzo). This improves stain resistance and makes the surface hygienic and easier to clean.

- Thermal and UV considerations. Cementitious terrazzo is relatively stable with weather; epoxy terrazzo performs best indoors or in shaded exterior areas unless UV-stable pigments are used.

Installation caveats:

Terrazzo's performance depends heavily on substrate preparation, bedding, movement joints, and skilled finishing. Poorly detailed installations are where failures occur — not in the material itself.

Long-term benefits of specifying durable materials

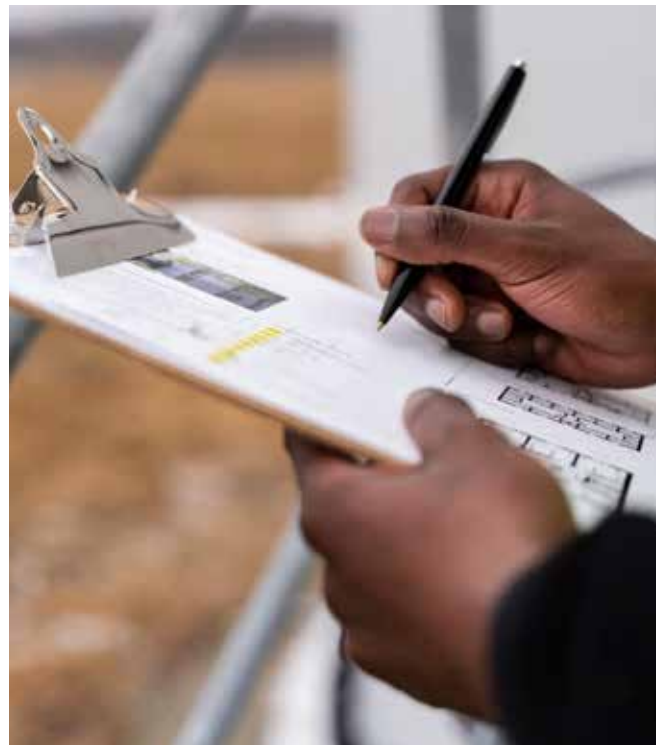
Choosing terrazzo and other durable materials pays off in multiple tangible ways over a building's life:

1. Lower lifecycle costs: Up-front cost may be higher, but maintenance, repair and replacement costs over 20–50 years are substantially lower. Less frequent re-flooring or patching means lower total expenditure.
2. Reduced downtime and disruption: Durable finishes reduce the need for recurring maintenance work that interrupts building use, which is a vital consideration for hospitals, airports, shopping centres and universities.
3. Improved asset value and marketability: Buildings that look good, feel solid and require less upkeep command higher rents, attract better tenants and retain value better in resale.
4. Sustainability advantages: Longer-lasting materials reduce the demand for replacement resources and waste. Terrazzo, in particular, can incorporate recycled aggregates and is highly recyclable at end of life.
5. Better hygiene and safety: Seamless, low-porosity surfaces are easier to clean and less hospitable to bacteria — important for healthcare and food environments. Terrazzo's polished finish and aggregate choices can also provide appropriate slip-resistance when specified.
6. Aesthetic longevity: High-quality terrazzo ages gracefully. Rather than looking dated or patched, it can be refreshed by repolishing, preserving architectural intent for generations.
7. Predictable maintenance planning: With durable materials, owners can confidently budget predictable, infrequent maintenance rather than surprise repairs from premature failures.

Practical recommendations for Zimbabwean projects

If your project team is considering durable materials, here are practical steps to ensure success:

- Specify whole-life performance, not just first cost. Include lifecycle cost estimates and maintenance schedules in tender documents.
- Use clear technical specifications. Define binder type (epoxy vs cementitious), expected traffic class, slip resistance, joint details and acceptable aggregates.
- Prioritise qualified installers. Terrazzo requires experienced crews for mixing, pouring, grinding and curing. Insist on proven references and workmanship warranties.
- Plan procurement and logistics. Early sourcing ensures the right aggregates and binders are available when needed.
- Include maintenance training. Owners and facilities teams should be trained in appropriate cleaning and maintenance to maximize lifespan.
- Consider phased rollouts. Start with high-visibility or high-traffic areas (corridors, or public foyers) to demonstrate benefits to stakeholders.





Rethinking “value” in construction

Durability is a strategic choice. In Zimbabwe today, where budget pressures, procurement realities and climatic challenges converge, choosing materials that stand the test of time is both fiscally responsible and technically sound. Terrazzo is a compelling example: aesthetic, robust, repairable and sustainable when specified and installed correctly. For large-scale projects — where the stakes are high and spaces are intensively used — investing a little more at the front end often saves a lot over the building’s life.

At Socoma Africa Construction we believe in specifying with a long view: choosing materials that protect client investment, reduce maintenance headaches and help Zimbabwe build infrastructure that serves communities for generations. If you’d like sample specifications, maintenance guides or case studies showing terrazzo in large projects, I’m happy to share practical templates and lessons learned from the field.

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