

WHITEPAPER



FACTORS TO CONSIDER WHEN SPECIFYING SEAMLESS RESIN TERRAZZO IN COMMERCIAL DEVELOPMENTS



An overview of the resin choices available and factors to consider within a food and beverage facility.

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Factors to Consider When Specifying Seamless Resin Terrazzo in Commercial Developments

The most suitable floor finish for a large-scale commercial development will largely depend on how the building is intended to be used as well as the conditions to which it will be subjected. This can range from the type and degree of traffic to which the building will be exposed right through to the time available in order to complete the flooring installation as well as the ongoing cleaning and maintenance of the surface in question.

The service criteria of the building must be addressed by all parties involved in the new-build construction or refurbishment project before specifying a material equipped to work in sync with the building itself.

Seamless Terrazzo Material

The origins of terrazzo flooring date back centuries where discarded chips from marble slab processing operations were set and submerged in clay using rubbing stones to create a smooth, decorative surface. With many ancient terrazzo floors still in service, it is a real testament to the durability and longevity of the material as a floor covering solution.

Today, technological innovations have seen epoxy terrazzo flooring systems launched to market. These seamless systems are even more sustainable and durable than their cementitious predecessors and have been successfully installed at a number of landmark large-scale commercial developments across the world, including shopping malls and

entertainment venues through to airports, hospitals, colleges and other facilities.

Seamless resin terrazzo is a popular choice in these environments and is often seen as the ultimate flooring choice when evaluating the efficiencies of a floor finish on a lifecycle basis.

Aesthetics

Seamless resin terrazzo offers design flexibility unrivalled by any other flooring material. Available in an unlimited resin colour palette with the scope to include a wide-range of aggregate material including mother-of-pearl, marble, granite, flint, recycled glass and mirror glass amongst others, this unique material delivers an eye-catching aesthetic on the surface of the floor.

	Epoxy Terrazzo	Cement Terrazzo	Quarry Tile	Ceramic Tile	Porcelain Tile	Vinyl Tile	Carpet	Vinyl Sheet
Installed Cost	9.10	8.50	5.78	6.48	6.78	1.23	1.98	2.72
Lifespan	40+	40+	40	40	40	15	10	9
Annual Maintenance	0.46	0.53	1.22	1.22	1.22	1.47	1.53	1.39
Replacement Cost	0.00	0.00	0.00	0.00	0.00	1.60	2.24	3.43
40 Years Initial & Maintenance Cost	27.5	31.70	54.58	55.28	55.58	64.27	62.09	73.56
Annual Cost	0.68	0.73	1.36	1.38	1.38	1.61	1.80	1.84

FIGURE 1: Comparison of Life Cycle Costs for Different Flooring Materials: All figures are shown in USD per square foot. Data provided by the National Terrazzo and Mosaic Association

Seamless resin terrazzo can be laid in a wide variety of complicated patterns and designs. Using brass or aluminium strips to create a matrix outlining the required design, resin terrazzo is simply used to fill each block or segment in a way not dissimilar to painting by numbers. Once the surface is ground the design emerges from the surface of the floor.



Durability

Seamless terrazzo flooring has an outstanding record for durability and performance. With correct care and maintenance, the floor will typically last or even outlast the lifetime of the structure in which it resides.

The composition of the material, including both the hard-cure epoxy resin and the hardwearing aggregate chippings, delivers a robust surface, which, as a result, has been proven to alleviate maintenance cost and energy usage over time.

Environmental Considerations

Typically 17% of a seamless terrazzo floor is made up of processed epoxy resin binders. The remainder of the floor’s make-up includes naturally occurring or recycled aggregates as well as pigments and fillers.

Up to 60% of a terrazzo floor’s composition can be aggregate content, all of which can represent pre or post-consumer waste including recycled clear, coloured and mirror glass chippings as well as granite, flint, marble and mother-of-pearl chips from stone-processing plants.

40 Year Lifecycle Cost Comparison

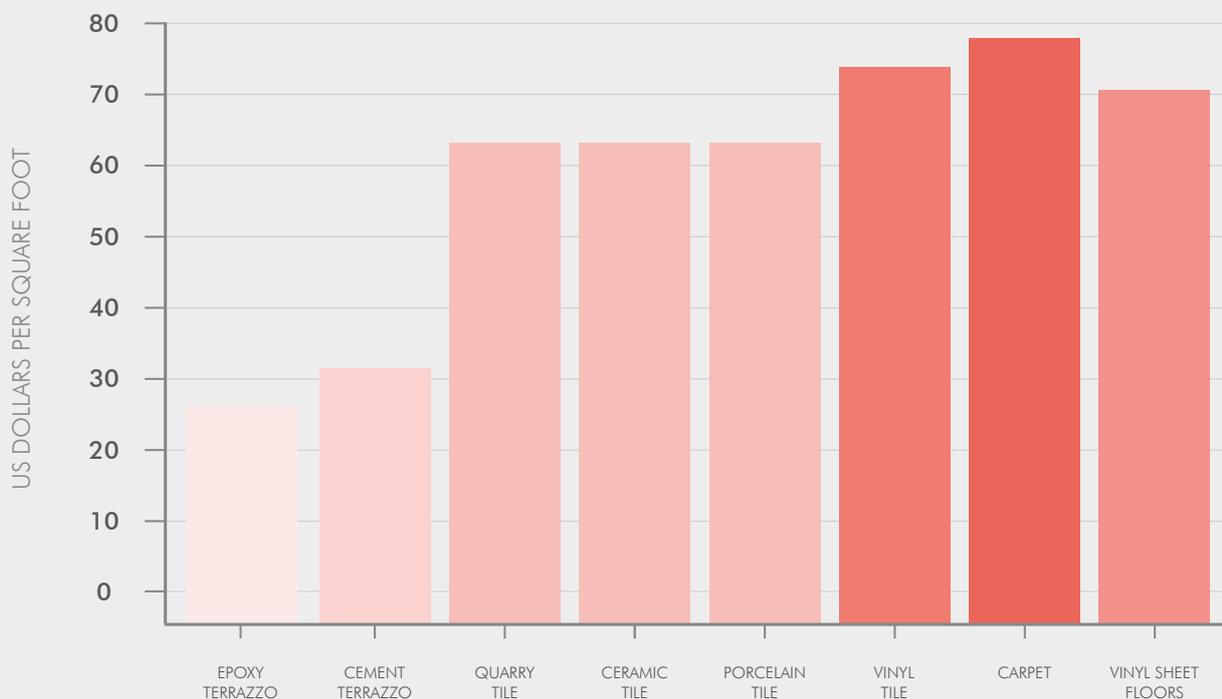


FIGURE 2: 40 Year Life Cycle Cost Comparison for Different Flooring Materials:
All figures are shown in USD per square foot. Data provided by the National Terrazzo and Mosaic Association

The low maintenance aspect of terrazzo can lead to significant energy savings over time. Whereas floor coverings such as carpet, tiles or vinyl require energy intensive vacuum or steam cleaning on a regular basis, the best method for cleaning epoxy flooring is using a dry and damp mop alongside the occasional spray buff.

Mature resin terrazzo floors can be stripped and re-sealed using water-based products in order to restore the finish to its original vibrancy. Recycled aluminium strips can also be used to complete any design work on the floor.

Hygiene

Epoxy resin is a low in volatile organic compounds (VOCs) and omits minimal odour during installation. The finished material is non-porous and seamless, meaning that moisture is unable to penetrate the surface.

The non-porosity of the epoxy material eliminates microbial growth and as a result can be used to improve the indoor environmental air quality of the commercial development where it resides.

Cleaning & Maintenance

Floors are well known to take more abuse than any other surface within a commercial setting, mainly from the high volumes of foot traffic that they are subjected to. As a result, an effective cleaning and maintenance routine should be in place to preserve the aesthetic and performance of the terrazzo finish.

Seamless resin terrazzo floors respond best to daily dry/dust mopping. Damp mopping with a neutral cleansing product with a pH value between 7 and 10 is advised on a weekly basis at a minimum.



Harsh cleaning materials may cause damage to the terrazzo surface. All purpose cleaning products or those containing water-soluble, inorganic and crystallising salts, as well as harmful acids or alkalis should be avoided. Sealers recommended by the manufacturer can also be used to eliminate wear patterns caused by long periods of heavy traffic.

The use of cleaning compounds containing oil may lead to permanent damage of the surface whereas waxy products may result in a slippery surface. These too, are to be avoided.

Lifecycle Cost Analysis

Typically, throughout the lifetime of a commercial building, the total flooring cost can be 35 times that of the initial installation price, so it is crucial to consider long-term cost-saving efficiencies at specification stage.

The National Terrazzo & Mosaic Association (NTMA) conducted the following analysis into the lifecycle cost performance of seamless epoxy terrazzo systems compared to competitive floor covering solutions over a 40 year period.

The results demonstrated that epoxy terrazzo offered clients the lowest lifecycle cost of any floor finish resulting from its durability, low maintenance requirements and minimal need for repair or replacement. In fact, no competitive commercial finish comes close to the lifecycle performance of epoxy and cementitious terrazzo.

This guide has been produced to give an overview of the factors to consider when specifying seamless resin terrazzo surface in a commercial setting.

Detailed recommendations and advice are available from our network of regional technical and sales representatives.

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