Life-Cycle Costs for Flooring in Commercial Buildings
Floor Covering Comparison Study

Because a tile installation will last as long as the building it's installed in, its environmental impacts are minimal when compared to other surface coverings that would have to be replaced numerous times over the life of the building. This also means that tile costs less per square foot over the long haul, whereas carpet, vinyl, and other floor coverings are significantly more expensive due to their replacement, maintenance, and refinishing requirements.

A study by Emily Lorenz, PE, F-ACI, an independent cost consultant, analyzed the life cycle costs of various flooring options, including tile, hardwood, laminate, carpet, vinyl, and other popular choices. After appraising initial installation costs, replacement costs where relevant, and custodial maintenance expenses, for each option over its entire life cycle, the study found tile to be the most affordable flooring type. In fact, all types of tile cost less than $0.99 per square foot per year while poured epoxy, VCT, and sheet vinyl flooring were the most expensive over the life of a building. To see all the analyses, refer to the author's full report available at **http://bit.ly/3UBUPHF**.

For specific projects using a building lifetime different than those above, or for different discount rates, or different installed costs and maintenance costs, please contact IPALaboratories at **info@IPALaboratories.com** for a project-specific lifecycle cost analysis.

Life-Cycle Costs for Flooring in Commercial Buildings

Material Type	Initial Installation Cost[1] (per sq.ft.)	Life Cycle Cost[2] (per sq.ft.)	Estimated Useful Life	Cost Per Year[3] (per sq. ft.)
Quarry Tile	$9.53	$71.31	75 years	$0.95
Ceramic Tile	$11.03	$72.81	75 years	$0.97
Porcelain Tile	$11.38	$73.16	75 years	$0.98
Solid Wood	$8.92	$75.78	75 years	$1.01
Engineered Wood	$7.92	$78.76	25 years	$1.05
Limestone	$24.30	$101.68	75 years	$1.36
Travertine	$24.30	$101.68	75 years	$1.36
Granite	$26.65	$102.69	75 years	$1.37
Marble	$26.65	$104.03	75 years	$1.39
Nylon Broadloom Carpet	$5.86	$125.41	5 years	$1.67
LVF	$4.56	$131.66	15 years	$1.76
Carpet Tile	$5.25	$132.57	5 years	$1.77
Rigid Core	$6.36	$136.13	15 years	$1.82
Epoxy Terrazzo	$13.66	$137.22	75 years	$1.83
Laminate	$8.49	$138.45	20 years	$1.85
Poured Epoxy	$11.49	$155.91	15 years	$2.08
VCT	$3.09	$159.48	15 years	$2.13
Sheet Vinyl	$7.10	$169.46	15 years	$2.26

Costs calculated for light to medium commercial use in office space.
[1] Initial installation costs are the addition of the material and labor costs for each respective material type.
[2] Life cycle costs are expressed as net present values (NPVs).
[3] Costs per year are the life cycle costs for each respective material divided by the length of the study period (75 years).

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