



Image courtesy of World of Tiles, NSW.

CERAMIC TILE

THE LOWEST COST FLOOR FINISH

By Anthony Stock

In 'Sustainability - Where are We at?' on page 8, we focus on the need for the tile and stone industries to ensure that their materials receive suitable recognition from an environmental perspective.

To facilitate that movement, I have signed a Memorandum of Understanding with the Green Environmental Council of Australia (GECA) that will provide members of the Australian Stone Advisory Association (ASAA) with an opportunity to maximise its eco-labelling capability.

This initiative fits with the overall objectives of our publications *Tile Today* and *Discovering Stone*, which regularly attempt to promote tile and stone as eco-friendly products that have excellent Life Cycle Analysis (LCA) characteristics.

Gary Jones, a past president of the Australian Tile Council (ATC) currently represents the ATC's interests in relation to standards. In June, Gary will attend a meeting in Sydney with representatives of the GECA to formally begin similar negotiations on behalf of the ATC.

These major developments coincide with the development of the Full Frontal Tile & Stone Expo (FFTSE), which will be held in Sydney, 17-19 April 2008.

FFTSE has arranged for leading architectural magazine *Architectural Review* to participate in FFTSE by presenting a valuable series of

seminars, that will be extensively promoted in *Architectural Review* to more than 9000 registered architects.

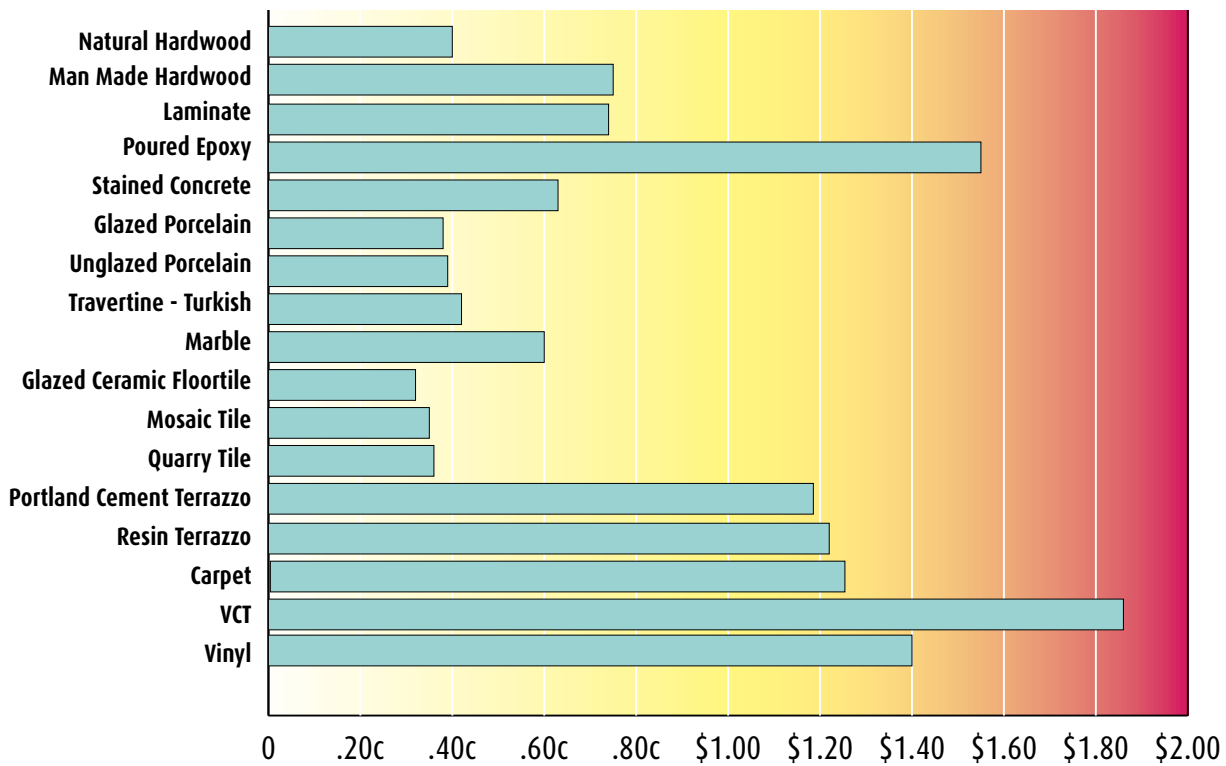
In addition, Petar Johnson, chairman of GECA and Suzie Guthridge, executive director of the Green Building Council, will speak at FFTSE as part of a major focus on this key issue. In addition, tile and stone industry seminars will run concurrently featuring an extensive line-up of local and international speakers.

Tim Edwards of the GECA commented: "Life Cycle Analysis is a key component in relation to any successful application for eco-labelling of a product, it's actually complimentary."

Therefore, the following study on LCA conducted by cost consulting firm Scharf-Godfrey, a division of Phoenix Engineering, for the Tile Council of North America, is a positive starting point in the process of developing eco-labelling for the tile and stone industries in Australia.

However, it should be stressed that the GECA will frequently look for products that have a specific point of distinction. For example, any manufacturer who recycles glass or tile may have an advantage over a competitor who produces similar materials but does not recycle.

The Tile Council of North America (TCNA) announced that ceramic tile was found to be the most economical of 12 floor finishes.



The Scharf-Godfrey report compares various types of ceramic tile to 12 other floor finishes, such as hardwood, laminate, concrete, stone, carpet, terrazzo, vinyl and poured epoxy (for specifics see charts).

DEFINITION OF LIFE CYCLE COSTS

Life Cycle Cost Analysis (LCCA) is an economic method of project evaluation in which all costs arising from owning, operating, maintaining and disposing of a project are considered important to the decision.

The definition of Life Cycle Costs used in the study was the initial cost to install, which includes labour, material, other installation materials, normal contractor's overhead and profit, plus periodic maintenance costs to preserve and maintain the appearance of the product, plus the final costs to remove the floor covering at the end of its useful life. Future expected costs were discounted to today's dollars using the Present Value (PV) of a future payment calculated as a function of interest rate and an assumed inflation rate. It was assumed that there is no salvage value to any of the products at the end of their useful life but there are disposal fees associated with removal of the floor covering.

CONCLUSION OF THE STUDY

Ceramic tile was found to cost less per year than the other floor finish over the life of the building. Glazed ceramic floor tile was found to be the least costly floor finish at only 33 cents per square foot per year over 50 years. Mosaic tile was a close second at 35 cents per square foot annually. Porcelain tile and quarry tile proved to be equal at 36 cents per square foot. Due to the shorter lifetime of non-permanent finishes such as carpet and vinyl, the life cycle cost of those products was significantly higher as shown in the following table:

FURTHER STUDY

This information, and much more besides, arrived late in the production cycle of this edition of *Tile Today*, so I will publish a more extensive analysis in the August edition.

Colin Cass did a quick conversion of the study's findings, which reveals that in terms of Australian dollars and life expectancy, tile and stone are the most economical floor coverings when compared to competitive floor coverings popular in Australia. Note that Colin converted cost per square foot to cost per square metre.

In August, we will attempt to focus on an exhaustive European study that includes polished porcelain. ^{TT}

Life Cycle Costs per year

MATERIAL	INSTALLED COST US\$	LIFE CYCLE COST US\$	EXPECTED LIFE (YEARS)	COST PER YEAR US\$
Ceramic Tile	7.00	16.30	50	0.33
Mosaic Tile	8.20	17.50	50	0.35
Quarry Tile	8.65	17.95	50	0.36
Glazed Porcelain	8.94	18.24	50	0.36
Unglazed Porcelain	10.30	19.60	50	0.39
Natural Hardwood	9.31	20.80	50	0.42
Travertine - Turkish	12.50	21.80	50	0.44
Marble	21.00	30.30	50	0.61
Stained Concrete	12.40	15.90	25	0.64
Laminate	8.84	17.82	25	0.71
Man-made Hardwood	9.58	18.56	25	0.74
Portland Cement Terrazzo	24.88	34.30	30	1.14
Sheet Vinyl	6.90	14.09	10	1.41
Resin Terrazzo	8.50	18.32	15	1.22
Carpet	2.67	7.54	6	1.26
Poured Epoxy	9.11	15.37	10	1.54
VCT	3.91	18.54	10	1.85

Conversion to Australian dollars

MATERIAL	AU\$ PER SQUARE METRE	LIFE EXPECTANCY (YEARS)
Ceramic	2.88	50
Stone	3.52	50
Timber	5.92	25
Carpet	10.08	6
Sheet Vinyl	11.28	10
Terrazzo	19.12	30

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