



MADE OF
THE RIGHT
STUFF

Credits in the materials category encourage better choices when it comes to materials and finishes, since they have a relatively short lifespan.

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Furniture, assemblies, flooring and wall-coverings have the fastest churn rates of all building materials, rapidly replaced when refreshing or rebranding a property. Commercial properties are usually refurbished every three to 10 years, and “to throw everything away is extremely wasteful”, says Carin de Beer, sustainability consultant at Arup South Africa.

Production and resource use in interior finishings are significant contributors to the environmental impact of a building, and the credits in the materials category address these components. There are 30 points available in this category, making it the most substantial in the Green Star SA Interiors rating tool, and credits are awarded for a selection of items that have a reduced environmental impact compared to available alternatives.

Arup associate and sustainable building specialist Jaco Kemp, who was one of the technical consultants developing the Interiors tool, explains that this category promotes a thorough lifecycle assessment of materials within products. It highlights that new materials are very resource intensive in terms of water, energy and by-products associated with mining and manufacture, and it promotes using materials that are re-used or incorporate recycled material, thus diverting waste from landfills.

Environmental scientist and Green Star SA accredited professional Fabio Venturi from Terramanzi notes that the five criteria recognised in this category are: re-used items; certified products; product stewardship or design for disassembly; re-used, recycled or certified content; and manufacturer ISO 14001 certification.

Getting certain credits requires making calculations on percentage of area, length, volume or mass of an item that consists of re-used, recycled or certified content, thus diligence with documentation is recommended.

CERTIFIED PRODUCTS

Assessing the environmental efficacy of materials can be a considerable task, and for common items it is recommended that already certified products are sought. Certified products are items labelled by independent third party certification schemes, such as Global GreenTag. They are considered ‘pre-approved’ since these organisations generally evaluate products based on a broad range of environmental issues and a whole-of-life scope.

The Green Building Council South Africa (GBCSA) has established a list of approved certification schemes. Each is given a grading (A, B or C) and items are then given a score in the materials calculator, correlating to their results in that scheme. Not just any green-washing label will suffice, and a manufacturer’s self-declared environmental claims will not cut it, unless they are independently verified.

For less common products, or those that have not been certified by an independent scheme, a materials calculator has been developed. One can assess an item, carpet A and carpet B for example, and list its compliant qualities in a spreadsheet tool, which provides the final score. This item is assessed considering aspects of the design, manufacturing, and end-of-life options. The more beneficial criteria the item meets, the better its score.

RE-USE

Criteria can also be met by reusing a product and giving it another life with minimal input of new resources. Venturi says at least 80% of an item by area, length, volume or mass must be retained and the metric chosen must be justified. Examples include refurbished or re-upholstered furniture and salvaged repurposed items. De Beer says that designers are getting more and more creative with re-using materials, particularly salvaged wood. She reiterates that because of the amount of documentation required, consultants should

meticulously document volumes and calculations showing how much of something is re-used or recycled along the way.

PRODUCT STEWARDSHIP

Here, everyone involved in the lifespan of the product takes responsibility to reduce its environmental impacts, such as manufacturers who can provide further options when their product comes to the end of its useful life. Having a take-back programme, is one typical example, says Venturi, and this is a contract between client and manufacturer, committing the manufacturer to take back the

carpets and recycles them into new carpet tiles, diverting potential waste from landfills.

Kevin Bates Flooring & Carpeting, which distributes Interface carpets in South Africa, has adopted this programme, but because it would not be viable to ship the used carpet tiles back to the European Interface mills for recycling, the carpets are collected for re-use, says Kevin Bates Flooring and Carpeting Interface consultant Lesley Fidrmuc.

Kevin Bates sales director Brandon Park says: “After removing the unwanted carpets, we identify worthy recipients such as schools, hospitals, places where the young and old members of deprived

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material or product at its end of life, for the purpose of re-using or recycling the product as an input to a new value chain of goods. A signed copy of the contract between tenant and manufacturer will be required to get the credit.

De Beer notes that this trend is gaining traction among manufacturers, however Venturi says that it is still a fairly new concept among South African manufacturers. “Skills and knowledge levels around sustainability and the circular economy are still low. It requires a lot of joined-up thinking, cross-sector collaboration and enlightened government regulation,” he says.

Netherlands-based carpet tile manufacturer Interface is one company that has been lauded for its environmental commitments. As well as operating with 100% renewable energy since the start of 2015, the Interface factory in Europe uses virtually no water in its manufacturing processes, and has attained a zero waste-to-landfill – partly thanks to its re-entry programme, which collects all out-dated

communities are housed, as well as informal settlements and other worthy causes to donate the carpets to. The response has been tremendous.”

Products that are designed for easy disassembly into component parts are also encouraged, as these parts can be more easily recycled or repurposed. “This means people start thinking about what happens to a product at the end of its life, and perhaps also start thinking about longevity and designing something that may not go out of fashion as quickly,” says Kemp.

He adds that along these lines, thanks to sustainability and cost concerns, interior designers are also starting to design for more flexibility so a space can be rearranged to accommodate changing needs without requiring a complete overhaul.

REDUCE, RE-USE, RECYCLE

Kemp and De Beer agree another emerging trend is that of so-called de-materialisation: having less “stuff” on the whole, is the most sustainable option.



An example of this would be polished concrete flooring, which produces an edgy industrial feel.

Manufacturing with re-used items, recycled material or content that has been certified can optimise product content. Portions of a product can still qualify, such as timber desktops certified by the Forest Stewardship Council (FSC), even if the table legs are not certified.

HOME GROWN

Points for local sourcing reward a project for buying local; that is, half of the project's value is comprised of materials and products manufactured in South Africa. An additional point is available if some of the raw material required is extracted or harvested domestically. In contrast to its predecessors, this tool version allows sourcing from the entire country rather than specifying a kilometre radius limit.

AngelShack is a Johannesburg-based manufacturer of ergonomically and acoustically friendly office furniture, which prides itself on the procurement of locally sourced, high-quality eco-friendly materials. The factory focuses on energy efficiency and technology to eliminate chemical emissions, and furniture is flat-packed to reduce space required for storage and transport.

AngelShack sales MD Joy Turnbull says in the South African context, employment and

development of employees from local communities is an important sustainability aspect. "We believe in mentoring and training people with skill, and unskilled labour," she says.

The company produces a yearly sustainability report and is in the process of applying for a Global GreenTag rating, as well as investigating the potential for a buy-back scheme, and how this would work.

Beyond the materials that constitute a product, other credits in this category are similar versions of credits in the other Green Star SA tools. Operational waste management, for example, rewards including designated space for the separation and storage of recyclables such as paper, glass, plastics and metals.

It is hoped the Green Star SA Interiors materials category will incentivise market transformation and innovation to provide more environmentally sound alternatives to existing products and materials. "The motivation for this concept for both business and clients need not be purely environmental, but economical too," says Venturi. ◉

SOURCEBOOK

Arup • Jaco Kemp and Georgina de Beer • www.arup.com
 Terramanzi • Fabio Venturi • www.terramanzi.co.za
 AngelShack • Joy Turnbull • www.angelshack.biz
 Interface • Lesley Fidrmuc • www.kbacflooring.co.za