

https://www.motherearthnews.com/green-homes/the-most-eco-friendly-home-construction-materials-zbcz1802

# Recycled Steel

Producing and smelting steel takes a lot of energy. Just think of forges and smelters, with sparks flying up to the sky. That's one of the reasons recycled steel has become an enormously popular green building material. It utilizes steel already in existence for structural use in a home, in beams and girders, for example. The reclaimed steel from six junked cars provides enough recycled steel to build a 2000-square-foot house. Recycling saves 75 percent of the energy costs utilized in making the steel.

#### Bamboo

Bamboo is increasing in popularity as a building material. It has a great deal of tensile strength and can be used in walls and flooring. It is an ideal building material because it can be used behind the scenes — underneath another type of flooring, for example — and as wall screens and mats. Bamboo is very sustainable since it grows quickly. While trees such as pine and cedar can be reforested, growing them can take years. Bamboo can be reforested much more promptly and grows throughout the world.

## Sheep's Wool

Sheep's wool, of course, can also be regrown quickly. After shearing, sheep inherently produce a new crop. Clothing manufacturers have long-known the insulating properties of wool, which make very cozy sweaters and socks. The same insulating features can make sheep's wool an energy-efficient insulator in walls, ceilings and attics.

#### Straw Bales

Straw bales also have fantastic insulating properties. Straw bales are placed in walls, attics and ceilings to contribute to cooler temperatures in the summer and warmer temperatures in the winter. Straw can be harvested and re-planted easily with minimal environmental impact. The making of straw into bales also has a very low influence.

#### Precast Concrete

Concrete is a natural material that can be recycled, making it an appropriate choice for eco-friendly homes. Also, pre-cast concrete is eco-friendlier than concrete poured on site. It is poured into pre-made molds over rebar or wire, then cured. Once the concrete has hardened, it can be shipped and placed into multiple structures. As a result, precast concrete achieves economies of scale that concrete which is poured on-site cannot.

https://elemental.green/10-eco-building-materials-revolutionizing-home-construction/

#### RAMMED EARTH

Earth construction is one of the oldest durable techniques for building structures. Think Great Wall of China! These days, it can be seen in luxury homes creating dramatic and durable walls which resemble sedimentary rock.

Rammed earth walls (or even floors) can be used as thermal storage, allowing the sun to warm them in the day and then slowly release the warmth in the cool evenings.

This low-carbon technique uses forms in which soil and binder is placed in layers and then pressure is applied to create a hard and durable surface. And now, Watershed Materials have put this technique into their Watershed Block, which is a replacement for conventional concrete masonry. These blocks use waste materials from quarries to create a low or even zero cement blocks which can be installed by any mason.

#### **ECO PAINT**

ECOS Paints are not only no-VOC paints, free of that "new paint" odor (polyurethane) that can cause headaches, nausea, and respiratory issues, their Atmosphere Purifying Paint has advanced VOC-filtering technology which absorbs and neutralizes chemicals, pollutants, solvents, and VOCs for improved indoor air quality. How does it work? This amazing paint contains a molecular sieve, designed to adsorb a targeted range of volatile organic compounds (VOCs) from the atmosphere. The sieve (a non-toxic, crystalline tube) is sized to allow small molecules such as nitrogen, or oxygen to pass unimpeded, while larger molecules (organic compounds) become trapped.

### **SMART GLASS**

In the winter months, bright sunlight streaming through the windows can be the best thing in the world. But in the summer, that same sunlight streaming in can be invasive, harsh, and uncomfortable — not to mention the increase in electricity bills from a heavy dependence on air conditioning.

Smart Glass windows offer a solution to this problem. Smart glass (or smart windows) refers to glass or glazing whose light transmission properties change depending on how light or heat is applied. In general, the glass becomes translucent in the summer months to block certain wavelengths of the sun, and transparent in the winter to let in the warming rays. This translates to yearly cost savings in terms of both heating and cooling, as well as avoiding the cost and hassle of installing light screens or blinds. Smart glass can even reduce fabric fading, as it blocks up to 99% of harmful UV light.

https://www.barbuliannodesign.com/post/eco-friendly-building-materials-listolutionizing-home-construction/

#### **FERROCK**

The best way to describe ferrock is as a largely iron-rich ferrous rock. It is made from recycled materials like waste steel dust and silica from the ground up glass. When it comes to housing, it is typically used as an alternative to cement. Ferrock is great at absorbing, binding CO2 and overall reducing pollution.

#### Benefits:

Being used for marine applications such structures exposed to seawater, ferrock is an incredibly hard and resilient material. It is actually five times stronger than Portland cement. It is 10 to 25 percent less weight than a structure made of bricks. The actual process of Ferrock development is very much sustainable.

### **CLAY BRICK**

Clay brick is a natural material made from water and clay from the earth. It is entirely recyclable, entirely Earth-friendly, and it doesn't release any toxic chemicals when in the landfill.

### Benefits:

Clay brick is an energy-efficient material. In the summer, it keeps a house cooler, and in the winter traps the warmth for a more extended period.

#### **HEMPCRETE**

Hempcrete is a mixture of sand, hemp fibres and lime. It is typically used for construction and insulation. Blocks made of hempcrete are super-lightweight and easy to work with. Hemp is a fast-growing renewable resource, which makes hempcrete great for the environment.

# Advantages:

Hempcrete is a breathable material that doesn't shrink, so there are no crack lines once it's dried. Even though hempcrete is not stronger than concrete, on the other hand it is fire-resistant, pest-resistant, and a strong insulator.

https://www.geminifloors.com/tile-flooring-installation/

# Ceramic Tile | Porcelain Tile | Quarry Tile | Terracotta Tile | Stone Tile | Glass Tile

# Durable & Long Lasting

Clay tiles (includes Ceramic, Porcelain, Quarry Tile & Terracotta), Stone tiles & Glass tiles are all highly durable natural materials. Aside from stone, tile ingredients are all bonded together at extremely high temperatures resulting in a very hard, durable product which can last a lifetime. Tile is fade resistant, fire proof & resistant to stains. Some types of tile like unglazed ceramic and soft stone do periodically require sealer to protect them from stains & scratches. Most types of tile though, like glazed ceramic which is the most common, do not require sealer.

# Healthy & Environmentally Friendly

Tiles are made from all natural renewable material, basically just stone, clay & sand. Manufacturing systems use local materials & recycle water & unused portions thus producing very minimal waste. Carbon emissions are low to none as overseas shipping is not required like some other types of flooring materials. There are zero VOC's (volatile organic compounds, chemical fumes) in natural tile ensuring better air quality where installed. Tile is also hypoallergenic – no worries about mold, mildew, dust mites & other allergens harboring in the floor.

### Water Resistant

Most types of tile, which includes glazed ceramic, porcelain, stone & glass tile are used in kitchens, bathrooms & showers as well as outdoors. Porcelain & glass are also used in pools. As mentioned, unglazed ceramic & soft stone does require sealer being less water resistant. With sealer these can also be used in places exposed to moisture.

#### Low Maintenance

Tile flooring is low to no maintenance, with the exception of those needing periodic sealing. Most tile applications need no more than occasional sweeping & mopping.

https://us.kebony.com/blog/17-sustainable-architecture-design-ideas/

## **ARCHITECTURE DESIGN**

# Open Rainscreen

Insulation is essential for managing the interior temperature of a building. But there are further measures you can take with your wall assemblies to make passive heating and cooling work even more efficiently. An open rainscreen allows air to vent through your siding, pulling stagnant air and moisture from the waterproof membrane and keeping ambient hot or cold air from passing through the insulation. This modern library renovation utilizes Kebony wood siding to this effect.

# Community Outdoor Space

Sometimes sustainability is more than just efficient water heaters and low-impact specifications. Sometimes it's about creating awareness for the natural beauty of our surroundings and reminding people of the communities that coexist with the natural world. This project in Malmo, Sweden provides residents and tourists with an eco-friendly place to gather and observe Mother Nature in all her abundance. In order to reinforce this connection, the designers used locally sourced modified wood for the deck spaces and raised benches.

# Low-Maintenance Exterior Siding

Sustainability means durability. The most eco-friendly thing you can do when designing a building is making sure it stands up for the next 100 years. This reduces waste and energy costs over the course of a few decades and has the potential to make a huge long-term impact on global ecology. Using low-maintenance, long-lasting siding products, like the Kebony shiplap siding used in this student housing project, helps ensure a long life for the structure.

# Natural Light

The best way to lower your artificial light usage is to introduce an abundance of natural light into the interior. This project for the Norwegian Institute for Nature Research utilizes a series of faceted volumes with large glazed openings, providing all the interior lighting they might need. This also provides for great views to the outside landscape, where the workers plan to do plenty of nature research on their downtime as well as when they are clocked in. The massive picture windows are interrupted with sustainable Kebony wood siding, adding natural dimension to the building.

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### **ARCHITECTURE DESIGN**

### Don't Disturb What You Don't Have To

This playground project in Denmark is a great example of a functional public design that doesn't try to do too much. The designers have carved out a few strategic areas for wood boardwalks, benches and play areas, but otherwise left the site open, green and natural. Sometimes letting nature be nature is the best way to promote a healthy planet. Reducing the footprint of man-made structures is what makes this project such a success.

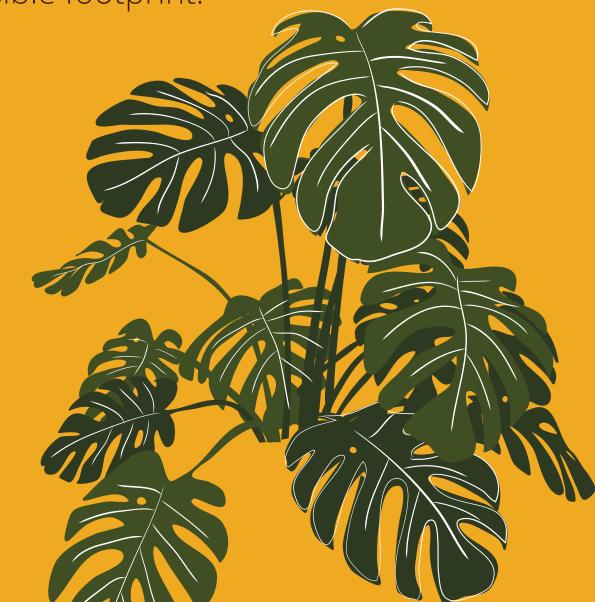
#### Natural Ventilation

Cutting down your reliance on active heating and cooling systems are a great way to reduce your impact on energy consumption. This Tommy Bahama store build-out utilizes open windows on all sides of the retail space, allowing the cool air to freely flow through the interior. This gives shoppers and restaurant patrons a comfortable browsing experience without the use of massive, power-sucking air handlers. It's the perfect touch for a store that embodies the open-air feel of an actual walk on the beach.

# Passive Heating and Cooling

The Villa Circuitus is a certified passive house. It doesn't rely on one or two sustainability techniques, but an entire army of them in order to build the most eco-friendly structure possible. From the Kebony sustainable wood siding and vertical stack ventilation, to strategic solar shading, this house does all it can to lower its carbon footprint and exist entirely off the grid. It's circular floor plan is the most functionally efficient shape for usable space, giving the most amount of usability in the smallest possible footprint.





# BUILDER'S CODE OF INTEGRITY

# **BUILDER'S INTEGRITY**

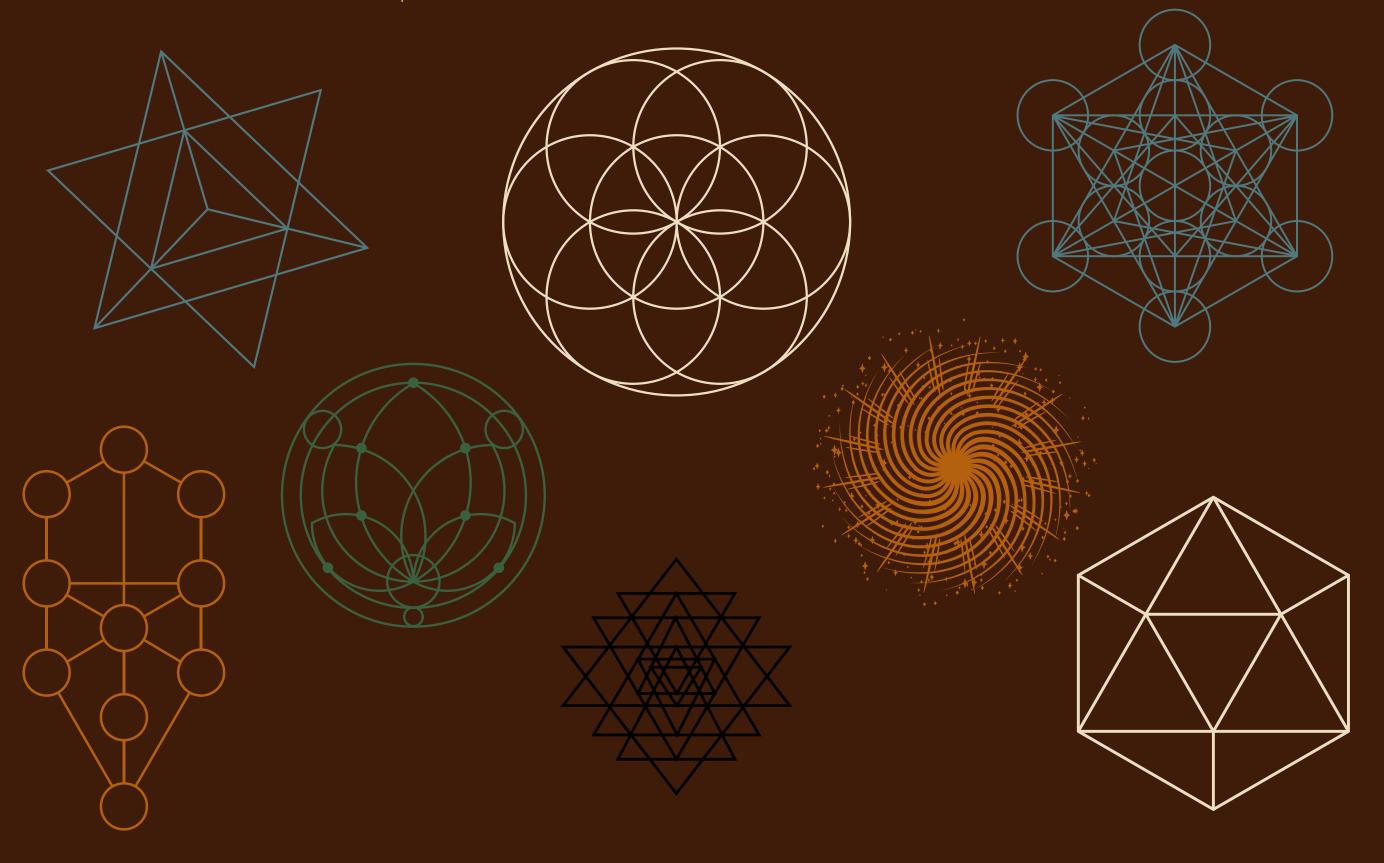
All builders of New Earth agree to build in alignment & integrity with Mother Earth, Source, & the good of all. Any structure that is built must have the intention to provide stability, to provide a sacred space, to provide inspiration, & to provide connection between us and Mother Earth. Any intentions to build any structure or thing for money, greed, or for any other use that does not serve the greater good will be out of integrity.

All New Earth Builders hold sacred codes within them to bring harmony, balance, beauty, sustainability, & healing into their work. Working with the elements of nature, the inspiration of spirit, & the gift of bringing ideas and creativity into form through building, is an honor for all beings.

All building must be done with pure connection and presence. When we do things in a rush, out of sync with the natural flow, outside of guidance from Spirit, & just to "get the job done", we create destruction rather than beauty.

Consistency, dedication and the perfection of your craft will keep you in the highest integrity. Creativity in your skill allows you to create in new ways, innovate with different techniques and forms of building that are outside the box of 3D.

Sacred geometry & divine inspiration from nature are the new guiding posts for our building evolution. These sacred and aligned shapes and flows bridge the gap between humanity and Mother Nature. Divine intelligence shows us the blueprint for all manifestations to come into form.



# BUILDER'S CODE OF INTEGRITY

## **NEW EARTH BUILDER'S DECREES**

Building with integrity will entail building with sustainable and real materials. The toxic materials we currently build with are not sustainable & create illness and disease, structural risk, & damage the environment.

Building in integrity, by code, all buildings must be built with:

-Sustainable Material
-Non toxic, organic material
-Recyclable material
-Built to last
-Intention
-Sacred Geometry
-Prayer
-Creativity & Inspiration
-In alignment with Mother Earth
-Feng Shui
-A focus of creating harmony, space, alignment & stability

All buildings, structures, & infrastructure will be overseen by the Builder's Council.

All structures & builders involved must be in integrity with the Builder's Code. If
there are any violations of the Builder's Code, the Building Council will provide
guidance on aligning the project with the Code.

All investors, real estate agents, & building companies will no longer be allowed to build for profit. All land is owned & given by Mother Earth and all land is inherited through intention.

All givers & lovers of Planet Earth will inherit her land for the use and intention of creating stability, space for creation, & for the space to be used for its highest purpose to serve all of humanity.

ALL LAND, BUILDINGS, STRUCTURES, & HOMES, IF NOT BEING USED FOR THE HIGHEST GOOD OF ALL, WILL BE RETURNED TO THE LOVERS AND GIVERS OF PLANET EARTH.

ALL BUILDING, INVESTING, & RAPING OF LAND FOR PROFIT IS HEREBY ILLEGAL & WILL NO LONGER BE TOLERATED BY HUMANITY. ALL IN VIOLATION OF THE BUILDER'S DECREE WILL BE REFERRED TO THE COURT OF UNIVERSAL LAW FOR REHABILITATION.