Wood and concrete have been used in construction for thousands of years and for good reason. Both materials have properties that make them appealing building materials.

In today's blog, we are going to tackle the age-old debate between wood and concrete. But before we dive headfirst into this heated debate, there are a few considerations we need to keep in mind.

As professionals in construction, we know that you can look at this question from various perspectives, which ultimately affects your interpretation of the advantages and disadvantages listed below. We also recognize the distinction between immediate advantages and long-term benefits. In other words, the benefits that a material provides in the long term may outweigh the drawbacks you experience today.

Decide what's important to you and keep it in mind as you read this post.

An In-Depth Look at Concrete Construction

Concrete is durable, low maintenance, and resistant to wind, water, and fire. Because of its ability to retain heat, it increases the energy efficiency of buildings and cuts heating/cooling bills. Here are some more advantages and disadvantages of using concrete as a building material.

Advantages of Concrete

- Very durable
- Low maintenance
- Does not rust, rot, or burn
- Absorbs & retains heat
- Wind & water resistant
- Non-combustible (fire safe)
- Effective soundproofing material

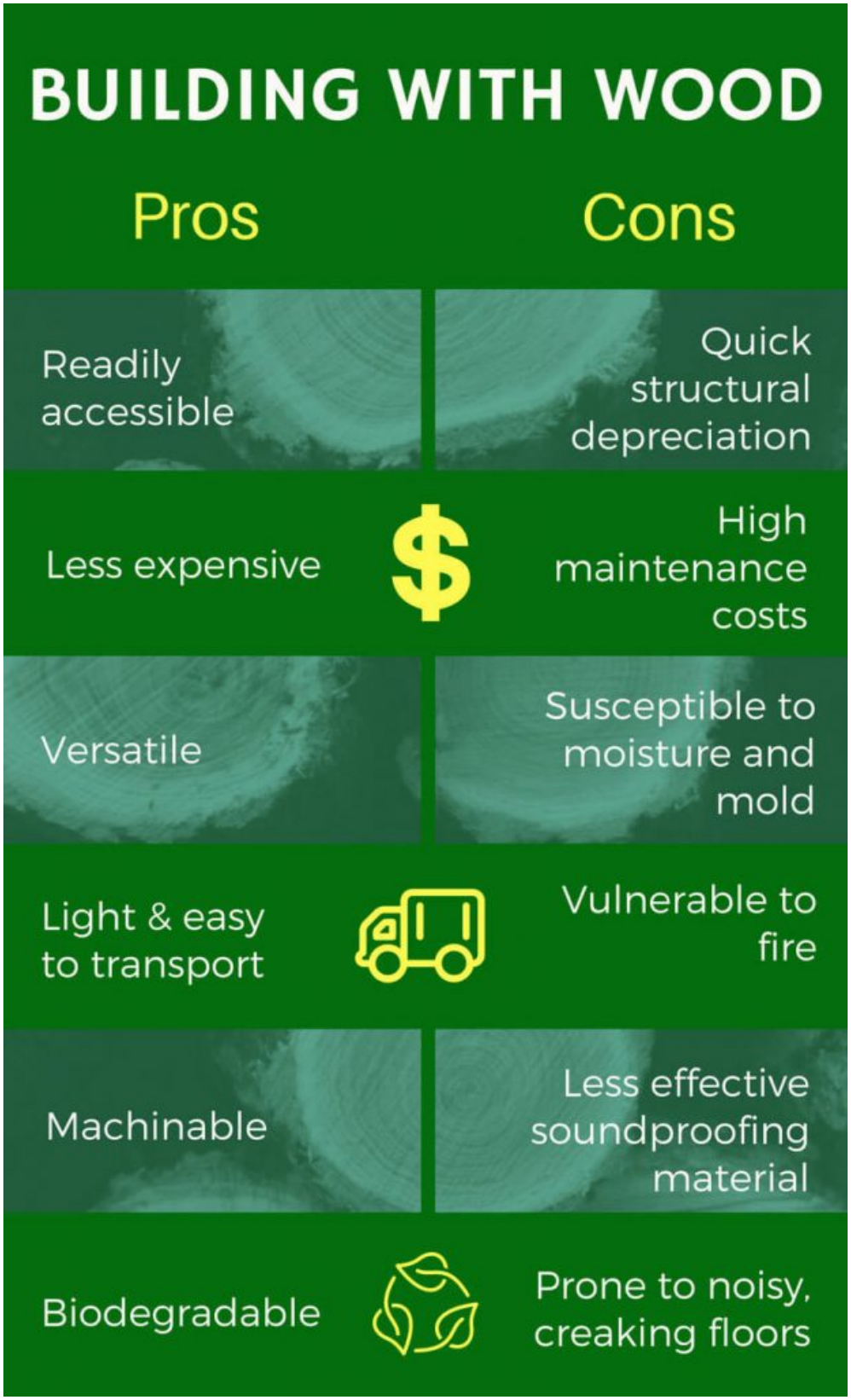
Disadvantages of Concrete

- More expensive
- Heavy & difficult to transport (although lightweight concrete does exist)

- Limited versatility
- Slower to build with
- Susceptible to efflorescence

An In-Depth Look at Timber Construction

Wood, or timber, is light, cheap, and easy to work with. As a natural resource, it is readily available and presents promising opportunities for forest and construction industries. However, according to many building inspectors, wood is a hot spot for mold growth and moisture-related problems that undermine the structural integrity of buildings. Here are some more advantages and disadvantages of wood and mass timber construction.


BUILDING WITH WOOD
Pros
Cons
Readily accessible
Quick structural depreciation
Less expensive
$
High maintenance costs
Versatile
Susceptible to moisture and mold
Light & easy to transport
Vulnerable to fire
Machinable
Less effective soundproofing material
Biodegradable
Prone to noisy, creaking floors

Just like concrete, timber construction has its benefits and its drawbacks.

Sustainability and the Environment

THEN there's the question of sustainability…

When we think of wood, we often imagine a natural, sustainable, and environmentally friendly building material. And in this case it is. Wood actually stores carbon dioxide, which results in a reduction of carbon dioxide emissions by 2,432 metric tonnes (equal to taking 500 cars off the road for a year).

Concrete, on the other hand, is often criticized for being unsustainable because it takes a lot of resources to produce. Actually, cement, a main component of concrete, is one of the world's biggest contributors to greenhouse gas emissions. The logic there is that because cement production is bad for the environment, so is concrete production. But the truth is far more complicated than that.

Let's take a closer look…

- **Concrete is durable**—its lifespan is actually two or three times longer than other common building materials.
- One of the main raw ingredients in concrete is **limestone**, which is the most abundant mineral on Earth.
- Concrete is great at absorbing and retaining heat, which means it will **increase energy efficiency** of a building and reduce HVAC expenses.
- Its reflective properties will **decrease air-conditioning costs** in the hot summer months.
- Concrete **produces little waste** as it can be produced in batches specific to project needs.

Which Is Safer: Concrete or Wood?

Last but not least, there's safety. Generally speaking, wooden structures are less safe than concrete buildings. They are vulnerable to external threats like fire, wind, insects, moisture, and mold—all of which can result in structural damage and safety risks.

While concrete is a durable, strong material, it too poses some safety risks. For example, should a concrete structure collapse, either at a jobsite or once the building is occupied,

falling concrete could seriously injure anyone who is nearby.

Also, if you're a builder working with dry or wet concrete, you may experience irritation of the eyes, nose, throat, or skin. Furthermore, exposure to silica, a main ingredient in dry concrete, can even cause far more serious health issues, including lung cancer.

Now that you know everything about building with concrete and wood, which would you choose? Let us know by commenting below!