



CONCRETE:

A Building Material Designed for Safety

Concrete is the most widely used construction material in the world with impressive attributes for creating safe, resilient and lasting buildings. Here's why concrete is a solution:

Concrete doesn't burn, rust or rot.



Concrete stands up to fire, wind, water and seismic vibrations.¹



Exposed cured concrete is unaffected by rain during construction, when building structures could be exposed to moisture.²



In the event of a fire, concrete withstands water damage, maintaining the integrity of the building for repairs.³



In the event of a building fire and evacuation, concrete protects occupants and emergency crews from dangerous radiant heat and flame.⁴



Concrete is the best defence when containing a fire and can improve the likelihood of safe evacuation.⁵



Concrete does not contribute to the fire load (the weight of combustible material per square foot of floor space) and does not emit any smoke, gases or toxic fumes when exposed to fire.⁶

FIRE SAFETY:

Concrete vs. Cross Laminated Timber (CLT)



Firefighters have expressed serious concerns about safeguards and technical merit of proposed changes to building height restrictions for mass timber construction.

The consensus among many firefighters is that testing to accurately determine how CLT performs in the real world is insufficient.⁷

Timber can become brittle if it fails. To ensure safety, concrete must remain at the core of tall-building design features, like stairwells and elevator shafts.⁸



The unparalleled strength, resilience and durability of concrete make it essential for safe, lasting structures.

- ¹ <http://rediscoverconcrete.com/en/sustainability/a-better-building-material/the-benefits-of-concrete.html>
- ² <http://globeadvisors.ca/wp-content/uploads/2016/03/Study-of-Insurance-Costs-for-Mid-Rise-Wood-Frame-and-Concrete-Residential-Buildings-Final-Revision-January10.pdf>
- ³ <http://globeadvisors.ca/wp-content/uploads/2016/03/Study-of-Insurance-Costs-for-Mid-Rise-Wood-Frame-and-Concrete-Residential-Buildings-Final-Revision-January10.pdf>
- ⁴ <https://buildingresiliencecoalition.org/the-need-for-balance-in-our-fire-codes/>
- ⁵ <https://www.cement.org/buildingcodes/structural-design/fire-protection/providing-safe-egress>
- ⁶ <https://www.concretecentre.com/this-is-concrete/Concrete-Shield.aspx>
- ⁷ https://www.iafc.org/docs/default-source/1assoc/position_tall-wood-building-construction.pdf?sfvrsn=4d5a890d_2
- ⁸ <https://ascelibrary.org/doi/10.1061/%28ASCE%29MT.1943-5533.0001275>

