Facts about wood and hybrid structures

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Many buildings don't suit the 'one size fits all' criteria. This applies to building materials too. Hybrid construction takes the best qualities from each material.

Wood is used extensively in construction and can be combined with other materials such as steel and concrete; creating a hybrid structure.

Hybrid construction is particularly common when building large or tall structures such as apartment blocks, offices, visitor centres or schools to provide extra structural support.

Timber engineered wood products feature heavily in hybrid structures, including Cross Laminated Timber (CLT), Glued Laminated Timber (Glulam) and Laminated Veneer Lumber (LVL).

Hybrid structures often result in aesthetically pleasing, cost effective, and sustainable buildings.

Designs can be as simple or complex as needed. Hybrid construction is particularly beneficial for more complex designs, helping to achieve the best building performance.

Hybrid structures are often made up of elements constructed offsite. Offsite construction means faster build times and is well received in built up areas as it creates less disruption, noise and mess.

Hybrid structures achieve structural efficiency and often a reduction in carbon footprint.

Hybrid structures are an economical, architectural, sustainable and structurally feasible alternative.

Initial costs may seem high but the speed of construction balances this out.

A common use of wood in hybrid structures is a timber roof structure on steel panels or timber floor panels with a steel structural frame (an alternative to concrete).

Wood is great for compression and steel is great for tension. When combined, they can make a very sturdy building.

Wood and concrete work well together, with concrete often providing the foundations and service cores.

Waste materials can be included within a concrete mix. Using precast concrete aids the speed of the construction process.

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Sources: TRADA "Hybrid Construction: Timber-Based Solutions to Structural Challenges"; B&K Structures; Designing Buildings Wiki

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