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Spotlight on *Structures*



Structures prizes

Congratulations to the winners of the 2021 *Structures* prizes, awarded to the best papers published in the journal during the previous year.

The prizes are sponsored by Elsevier and judged by the Institution's Research Panel. Each prize carries an award of £500 and the winning papers will be available free of charge for three months.

Best Research Paper

High strain rate studies for different laminate configurations of bi-directional glass/epoxy and carbon/epoxy composites using DIC

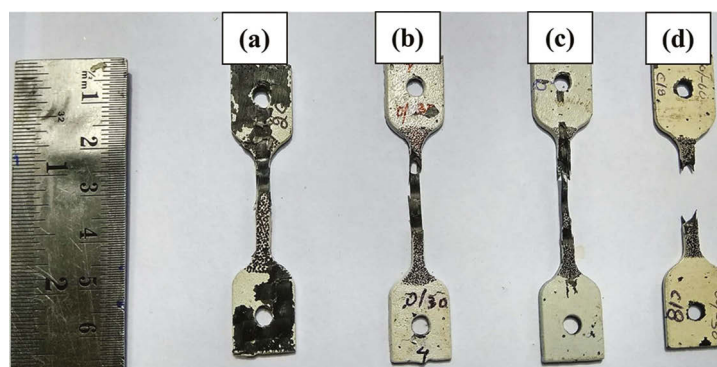
K. Naresh, K. Shankar, R. Velmurugan and N.K. Gupta
Structures, Volume 27 (October 2020), pp. 2451–2465

The strain rate dependence of glass fibre reinforced polymer (GFRP) and carbon fibre reinforced polymer (CFRP) composites was experimentally characterised over a range of strain rates by performing a series of tensile tests on laminate specimens. The results indicate that the tensile strength and modulus

increase and the percent of failure strain decreases for both GFRP and CFRP composites of all lay-up sequences, with the change in strain rate from quasi-static to $542s^{-1}$. The strain rate effect was found to be more for

all laminate configurations of GFRP composites than CFRP composites.

→ Read the paper at <https://doi.org/10.1016/j.istruc.2020.05.022>



Best Research into Practice Paper

The influence of structural design methods on the embodied greenhouse gas emissions of structural systems for tall buildings

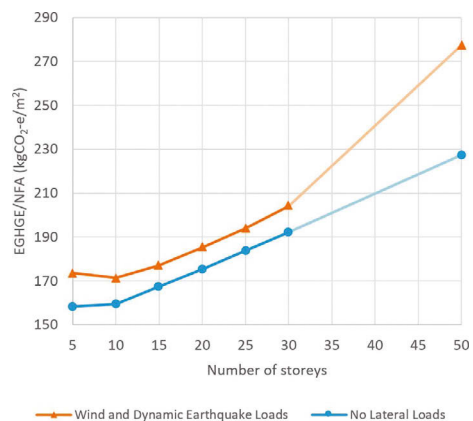
James Helal, André Stephan and Robert H. Crawford
Structures, Volume 24 (April 2020), pp. 650–665

The influence of structural design methods on the embodied greenhouse gas emissions (EGHGE) of structural

systems for tall buildings was evaluated using a total of 80 structural systems, parametrically designed using finite element modelling. A hybrid life cycle inventory analysis method was used to quantify the EGHGE of the structural systems.

The paper demonstrates that structural design methods can significantly influence the values of EGHGE of structural systems for tall buildings, by up to 22%.

→ Read the paper at <https://doi.org/10.1016/j.istruc.2020.01.026>



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