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Porous and Hygroscopic Materials with Fiber Reinforced Polymers

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Deadline for manuscript submissions: closed (31 October 2020)

Message from the Guest Editors

Fiber-reinforced polymers (FRP) make their way in various fields from aerospace to mechanical and civil engineering applications. Hybrid systems and materials where original material is reinforced or enhanced with FRP are increasingly used in civil engineering, where wood (a lignocellulosic, organic material) and are substrates being reinforced. Both materials are hygroscopic and porous and this makes the bond (may or may not be via adhesion) extremely challenging. In addition, biodegradability of wood, concrete alkalinity, heterogeneity, and properties variability are additional variables that must be considered. These include but are not limited to: creep and mechano-sorptive creep, chemical degradation of the interface, effects of temperature, water-vapor pressure, load history and combination of thereof. This Special Issue of journal attempts to address the state-of-the-art in research in the area of hybrid systems with special focus on fundamental properties of fiber-reinforced plastic porous, hygroscopic material interface such as wood-FRP or concrete-FRP, their performance and durability under effects of loads and interaction with the environment.



mdpi.com/si/46418







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Message from the Editor-in-Chief

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