

Recent development of fiber reinforced polymer composite towers - A comprehensive review

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Online published on 1 March, 2024.

Abstract

Fiber Reinforced Polymer Composite (FRP) materials were used first for military purpose and later widely-used in the various sectors such as aerospace, automobile, mechanical, biomedical, marine, chemical, sports and recreation, construction and energy. FRP is an emerging alternative material to replace steel in conventional transmission towers due to having special characteristics such as corrosive resistance, non-conductive, light weight and high tensile strength. This paper presents a review of articles published on various works carried out using FRP composite materials in tower structures around the world; understand the recent development and new technologies adopted, behavioral performances of the structural parts of the tower structures and how they were faced challenge carried out in the recent decades. This study provides a detailed discussion on recent development and techniques utilized in tower structures, structural behavior of the tower structures and numerical and experimental investigations on various composite materials.

Keywords

Composite Materials, Fiber Reinforced Polymers, Composite tower, Buckling behaviour, Pultruded members, Transmission Line Towers.

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Development of transmission line tower with FRP composite material

S.M. Kulkarni et al., Power Engineer Journal, 2013

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Abdesselam Zergua et al., International Journal of Civil & Structural Engineering, 2012

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Senthilkumar E. et al., International Journal of Civil & Structural Engineering, 2010

State-of-the-art review on plant-based solutions for soil improvement

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