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FRP RADOME: A SHORT REVIEW

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Abstract

The Radome is an expression derived from radar and dome. It is a cover or enclosure to defend radar antennas from environmental influences. The Radome must be capable to face up to various outside loads and conditions and is to be transparent to the Electro-Magnetic Waves. Essentially, the geometry and material selection of the radome is dictated by the Electromagnetic design and performance. Since the overall performance of a radome relies upon the materials used, the materials play a vital role in the design of the radome. Composites are gaining wider acceptance for use as Radome due to the number of advantages like high strength to weight ratio, ability to be molded into complex shapes, and better Electromagnetic performance. Modern radomes are manufactured using composite materials using textile fibers held together with polymer matrix. Using a hybrid system of fiber reinforcement offers the opportunity to optimize the Fiber Reinforced Polymer composite system based on mechanical, electrical, and cost criteria of the radome.

Keywords: Fiber Reinforced Plastic Composite, Radome, Electromagnetic Characteristics, Mechanical Characteristics