ASCE Manuals and Reports on Engineering Practice No. 104

Recommended Practice for Fiber-Reinforced Polymer Products for Overhead Utility Line Structures

Prepared by the Task Committee on Fiber-Reinforcced Composite Structures for Overhead Lines of the Structural Engineering Institute of the American Society of Civil Engineers

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Abstract: This manual provides guidelines for the design, manufacture, testing, installation, and erection of fiber-reinforced polymer products for overhead utility line structures. This manual was developed by the Task Committee on Fiber-Reinforced Composite Structures for Overhead Lines of the Structural Engineering Institute of the American Society of Civil Engineers.

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PREFACE

Advancements and innovations in fiber-reinforced polymers (FRP) and process technologies have resulted in lightweight high-strength FRP materials that are more cost-competitive with traditional construction materials such as wood, steel, and prestressed concrete. While there are a variety of possible structural applications for FRP materials, this document focuses primarily on conductor support applications and FRP poles.

Every effort has been made through various reviews to strive for accuracy and clarity. The user is reminded to consider the structures described herein as an integral part of a larger system. The user is, therefore, cautioned that the application of these structures should come only after sound engineering judgment has been applied with regard to a particular desired result. Furthermore, as an overall treatise covering a wide variety of applications, this document cannot conceivably satisfy all conditions. The user should bear in mind that often there will be specific local conditions and requirements that may dictate design and usage conditions that differ from those described herein.

The committee is grateful for the input of its advisory members and the comments from those who participated in the development of this report through correspondence and numerous working sessions.

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