

Emission Control Technologies for Carbon Fiber Processing

Carbon fiber and graphite reinforced polymers are materials that have, and will continue to revolutionize the products we use everyday by making them stronger, lighter and more durable. However, the manufacturing process can have serious environmental ramifications and immediate danger to human health if careful consideration is not given to emission control at the production phase of these materials. Recent developments in abatement technologies have not only improved destruction capabilities but also allowed carbon fiber producers to reduce operating costs by nearly 20%.

There are several air pollution control technologies used for the destruction of Hydrogen Cyanide (HCN), Siloxanes, Tar and Ammonia (NH₃) emissions produced in the ovens and furnaces of carbon fiber processing plants. This presentation will examine the two primary destruction technologies currently being used for this application, Direct-Fired and Regenerative Thermal Oxidizers, as well as some new abatement techniques which are still on the horizon. Specifically we will cover the design, application and energy reduction strategies for these devices.

Utilizing actual case studies from recent installations, we will discuss the effectiveness and efficiency of each technology based on different process conditions as well as international compliance strategies and application challenges.

Anguil Environmental Systems, Inc. is an air pollution control provider with over 40 years of experience and numerous systems installed in the carbon fiber industry. The company is intimately familiar with the capture, control and compliance hurdles that the processing plants face. We are proud to be a family owned and operated company engaged in an industry that ensures future generations a sustainable environment. The entire organization remains dedicated to its' slogan, "Committed to Cleaner Air."

About the presenter:

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Rich holds a Bachelor of Science Degree in Mechanical Engineering and a Masters of Business Administration. He has authored numerous technical articles and white papers for magazines such as Air & Waste Management, Panel World, Paper Age, Ethanol Producer, Chemical Equipment and Electric Power Research Institute. In addition, Mr. Grzanka has served as a member of several industry associations and presented numerous times on various air pollution control topics. His current responsibilities include sales and distribution

of the company's products in the Eastern United States and Europe while managing the company's efforts in the Carbon Fiber Industry.