

## Research on Carbon Fiber Tow Spreading Technique with Multi-Rolls

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**Abstract :** With the process of consistent expansion of carbon fiber in width (Carbon Fiber Tow Spreading Technique), it can be expected that such process can enhance the production of carbon fiber reinforced composite material and quality of the product. In this research, the method of mechanically expanding carbon fiber and increasing its width was investigated by using various geometric rolls. In addition, experimental type of carbon fiber expansion device was developed and tested using 12K carbon fiber. As a result, the effects of expansion of such fiber under optimized operating conditions and geometric structure of an elliptical roll, were analyzed.

**Keywords :** carbon fiber, tow spreading fiber, pre-preg, roll structure

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