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Effect of winding speed in epoxy glass composites for new fabricated filament winding machin

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The production of the glass fiber reinforced epoxy pipes is produced by filament winding process due to of its low costs, convenient and easy to install. The main objectives of this research is to optimize new fabricated filament winding machine and investigate the effect of winding speed. The problems for a new fabricated filament winding machine that must be optimized at first and lack of data for parameter in winding speed. The production by using filament winding process can be produce varieties of products such as tanks, pipes and vessels. The production of glass reinforced epoxy pipes of filament winding process was used different of winding speed levels. The new fabricated filament winding machine have 6 different winding speed that must be tested to get the optimum mechanical strength results. The process was stopped when the thickness of the samples is about 5.5mm wall thickness. The samples were tested with density for physical test and compressive strength for mechanical testing. The optimum winding speed to produce high mechanical strength for this new fabricated filament winding machine is winding speed two and the angle of the winding for speed 2 is 55°. This study, helps to determine winding speed for calibrate new filament winding.