

ABSTRACT

The images of composite material from dry lay-up, hand lay-up, and lamination techniques analyzed using multilevel thresholding image method with Matlab R2016b's software. This image has classified into 7 segments and each segment represents a different intensity and number of pixels. Segments with a low gray degree with a range of pixels intensity 0 - 150 represents a region with void, while segments with high gray degrees with a range of pixel intensities 151 - 255 represents a region covered with resin. The results of image analysis associated with mechanical test results including tensile strength and Young modulus. Based on results, dry lay up composite materials have stronged tensile strength consistently, if the number of voids is smaller. Composite materials in another techniques have not shown consistent results. In addition, there is no association between Young's modulus and the number of voids.

Keywords: composite, pixel, multilevel thresholding, mechanical properties.