# Comparative mechanical properties study of resin infusion versus hand laminating for the construction of 12-ft fishing boat

Yaacob, A.[ab], Mokri, K.N.[a], Puteri Zarina, M.K.[a], Mun'aim, M.A.[a], Idrus, M.[a], Zakaria, Z.A.[a], Koto, J.[b]

## Abstract

Resin Infusion is widely used to produce fiber-reinforced materials. In the process, the resin enters a close mold containing the dry fiber performed by pressure difference. This study is about finding the comparison of the tensile strength, compression strength and flexural strength between resin infusion technique and conventional hand laminating for the construction of a 12-feet fishing boat. Both boat were applied with the same composite matrices. All testing was done in accordance to the standard ASTM D3039, D3039M, ASTM D695-02a and ASTM D790-07. The result showed that the resin infusion technique produced better result upon ultimate tensile strength (27% better) but slightly less satisfactory for in compressive stress (12% lower) and flexural stress (34% lower). Even though resin infusion was only better in tensile strength, physically the product is more lightweight with a better resin-to-fiber ratio. 

**Author keywords**
Composite; Fiberglass; Hand laminating; Resin infusion