Abstract

In these years, bio-composites have gained constant attention especially flax due to its striking capabilities for various functions. The advantages of the flax fabric is predictable to give higher strength properties due to its structure but the arrangement of the fabric plies need to be further studied and optimised. The compression moulding were used to fabricate the woven twill flax fabric reinforced composites using due to its easiness, good quality of surface finish and relatively cheaper in terms of labour and production. In this study, the twill woven fabric of flax polypropylene composites (FPP) were fabricated by stacking the woven fabric with polypropylene, PP with the various arrangements of warp and weft/fill fabric plies. The stacking sequence of the all warp directions has resulted in the highest mechanical performance with regards to tensile, flexural and impact properties. It was also shown the improvement of the FPP composites in the mechanical and thermal properties in comparison to the neat PP. © 2020 SERSC.