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**Process Development and Performance Evaluation of Non-Asbestos Ceiling
Composite Material for Local Usage**

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Asbestos is once considered as a miracle material for its desirable qualities in the construction field. Later, scientists have discovered that the asbestos fiber is carcinogenic. It is now a material which is banned to use in most of the countries. Asbestos related products are going to be banned in Sri Lanka from 2018 onwards. However, asbestos sheets are widely used in roofing industry in Sri Lanka which remains among the top 12 consumers of asbestos in the world. Therefore, finding an alternative material for asbestos is of utmost important. However, it is difficult to find ongoing research related to the alternative products for asbestos in Sri Lanka. We have studied to use a composition comprised of Sorel cement (magnesium oxide + magnesium chloride) as the base material and naturally occurring fiber, coir (reinforced fiber), saw dust and stone powder (filling materials) as a substitute to prepare a composite materials that can be used as an alternative for asbestos product. Prepared composites were tested for water absorption, transverse strength, thermal insulation and water penetration. According to our results, minimum water absorption of prepared sheets was 5% where as in asbestos it was 19% and transverse strength was 10 Mpa. After further improvements, the environmental friendly composite materials can be used as a substitute for asbestos in construction industries in Sri Lanka.

Keywords: Asbestos, Reinforcing fiber, Ceiling composite, Coir, Roofing industry