

ABSTRACT - Markku Vilkki

Affordable Houses from Natural Fibre – Plastics Composites (NFC)

Extruded natural fibre – plastics composites (NFCs) have gained vast popularity in the house construction industry in last years and are sold in global retail value about 1 BUSD annually. Their performance characteristics and green values have encouraged dozens of manufacturers all over the world to establish new production of various extruded profiles for building exteriors and interiors such as decking, flooring, siding/cladding, wall and ceiling paneling, railing, fencing etc.

An entirely new concept is presented to construct affordable family houses in low cost basis by utilization of extruded NFC-profiles in a metal frame based on short sisal fibres mixed with a) Brazilian green plastics made from sugar cane and b) recycled compatible plastics collected from the environment depending of each profile and/or multilayer product structure in question.

It is estimated that establishing several NFC-profile factories in Brazil on profitable and sustainable basis can simultaneously provide better housing conditions for thousands of people with the lowest income level, improve the yield of the existing sisal industry with demand of short fibres in different quality, create significant amount of new jobs in the natural fibre industry bringing prosperity locally in the community with a constant large consumer application and offer attractive expansion opportunities in adopting the same concept in the neighboring countries with similar conditions and needs.