Wood - Plastics Composite (WPC) as the name suggests is a combination of low cost ligno-cellulose based fillers (wood powder, rice husk, bamboo, bagasse, straw etc.) and thermoplastics (HDPE, LDPE, PVC, PP etc.) both virgin and recycled. You may be well aware regarding the advantages & benefits of WPC products over conventional preservative treated hardwoods such as:

- Higher durability / longer life, negligible maintenance cost
- Resistant to moisture, rotting, cracking & splitting
- Processed like plastics but behave like wood - can be sawed, nailed etc.
- Can be manufactured in variety of colours / shades (do not require paint or varnish), can be laminated etc.
- Aesthetically similar to wood - can be produced with simulated wood grain details
- Use of additives for special properties
- Efficient use of scrap resources hence economical & environment friendly
- Variety of cellulosic raw materials can be used like wood flour, rice husk, bamboo pulp, bagasse, straw etc.

Some end uses:

- Outdoor floor decking, railings, fences, park benches, portable cabins
- Wall paneling and building facades
- Pallets (no fumigation required hence extensively used for marine / sea transport, warehousing etc.)
- Window & door frames
- Railway sleepers etc.
Wood Powder + HDPE Extruded Profile

WPC Pallet
WPC Decking & Railing

WPC Hut 2
Recycling of Waste Tetra Pak packaging material
Into Wood Plastic Composite

Tetra Pak ® is well known packaging material for milk, juice and other food / beverage materials. It is made up of Paper board (around 65 %), Low Density Polyethylene - LDPE (30 %) and Aluminium foil (5 %). The separation of paper, LDPE and aluminium fractions is not cost effective for recycling purpose. The manufacture of Wood Plastic Composite from waste Tetra Pack packaging presents a cost effective and technically feasible recycling solution that can produce value added product.

Wood Plastic Composite (WPC) is a combination of cellulosic material and thermoplastic. Waste Tetra Pack packaging material contain cellulosic material – paper (wood fiber) and thermoplastic material namely LDPE. Aluminium fraction provides further reinforcing effect in the WPC.

Production process: Waste Tetra Pack packaging material is shred - ground, mixed with additives & other fillers like CaCO₃ and extruded to form WPC pellets. These WPC pellets are further extruded to form end products.


Another end product with huge business potential is Pallets (see page 11 for photograph). WPC Pallets are highly durable, water- proof, rot – proof, do not require fumigation (which is mandatory for wooden pallets for export purpose) hence they are extensively used for marine / sea transport, warehousing etc.

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