CII Environmental Awards 2020

Product Responsibility Management

Filo Series and Green Stiffener

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DGM Marketing

Introducing

FiloPack

FiloServe

Certified by CPPRI for Recyclability

FiloBev

The Filo Series

- The board combines excellent strength and printability along with uniform coating giving a superior performance on high speed printing and converting lines.
- The base board is made with wood fibres from sustainably managed plantations.
- FiloPack, FiloServe & FiloBev are 100% recyclable and can be recycled in existing standard recycling systems

The board and the barrier coating conform to stringent food contact codes.

Certifications & compliances: Certification of Recyclability from CPPRI (Central Pulp & Paper Research Institute),

Conforming to direct food contact regulations: US FDA, EU, German BfR Recommendations XXXVI, Indian Standards of Food contact and can be offered with FSC certification

FiloPack

- FiloPack is designed for the growing food serving & delivery market as a replacement to single use plastics.
- It is coated with a special barrier that offers exceptional **water, oil & grease resistance**.
- FiloPack comes with a Kit value of **14** that makes it ideal for serving and delivery of oily and greasy foods.
- It is heat sealable in existing heat sealing mechanisms and compatible with hot and cold melt glue.

Applications:

Food packaging and takeaway

Frozen foods

FiloServe

- FiloServe is designed for food serving applications likes plates & trays as a replacement to single use plastics.
- The paperboard is coated with a special barrier that gives excellent **oil & grease resistant** properties.
- It comes with a superior surface finish and uniform coating and is compatible wit melt glue.
- FiloServe is available for the following variants
  - Dry & Greasy foods
  - Wet & Oily foods

Applications:

- Food serving

FiloBev

- FiloBev is developed for serving beverages replacing single use non recyclable plastics and LDPE coated cups.
- It is an odour free cup for hygienic dispensing of beverages
- The paperboard is coated with a special barrier that gives excellent water resistant properties.
- FiloBev is heat sealable in existing heat sealing machines

Applications:

Beverage cups

Project 1 – Filo Series

- Trigger : Projected market need and the single use plastic ban
- Project conceived at the Head of Marketing level – senior most in sales and marketing
- Uniqueness : New grade of paperboard for replacing single use plastics in food service applications
- Date of commencement : January 2019 , first online trial: March 2019
- Completion vs planned dates and milestones
  - The milestones of the project were technical performance related and were not constrained by a time limit
  - Nearly a dozen formulations had to be attempted to achieved the required properties , viz. oil and grease resistance combined with recyclability
  - Two grades in the series : FiloServe and FiloPack were commercially launched by Dec 2019

Tangible & Intangible Benefits

- Tangible Benefits (projected)
  - Value of online food delivery market (2019) : Rs55,000 Crores
    Packaging cost ~ 6% : Rs3300 Crores
    Approximately 75% is plastic : Rs2475 Crores
    At Rs1,35,000 / ton of converted plastic : ~ 1,80,000 tons / annnum
    Even at a 50% conversion to Filo Series will prevent ~ 90,000 tons of plastic from ending up in landfills
- Intangible Benefits
  - Attitude shift – educating consumers to segregate waste at source and enable recycling
  - Awareness about the value that paper based waste can generate already exists and we believe will aid in this attitude shift

Replication

- The coating can be done both online an offline
- Many offline / standalone coaters can also attempt such a solution
- Plates , trays for serving applications are the ones we expect to be replicated immediately
- Applications requiring a sealable closure will follow soon once more machinery manufacturers develop

Green Stiffener

- The Soap Bar market in India is pegged at over 13500 crores in value
- Soap Bars are packed in a flexible packaging construct are a popular format across brands and a cost competitive option when compared to folding cartons
- The flexible packaging construct on the inside consists of a paper which is extruded with mainly low density polyethylene for barrier properties with its surface area in full contact with the soap bar
  - functionally supporting the shape of the bar and the outer envelope,
  - protecting any mold growth on the package across climatic and storage conditions,
  - providing resistance to any staining to the pack and safe passage protecting the integrity of the brand till the consumer opens the envelope for use
- The outer of the flexible packaging i.e. the envelope is a composite structure which is made of different grades of polymers laminated to low substance papers with anti-mold growth treatment
- As a core packaging solution provider to consumer brands ITC-PSPD has developed an alternative to LDPE coated paper used for the stiffener application for packaging of Soap Bars which is Compostable, Recyclable and India first

Paper: Green Stiffener (Wave 1)

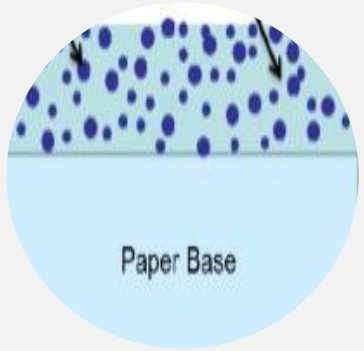
Technical Product Development

Critical to Quality

Anti-fungal property

Fungicide coating

Medium barrier coating



100 gsm paper with 2450 N/m wet strength
140 gsm super calendered paper

Specifications

Testing

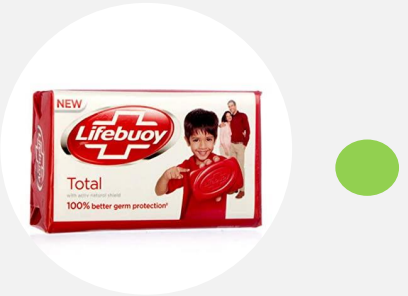
A4 sheets for micro studies (WIP)

Challenge Test

Feasibility

Trials

Commercial scale up



Development

Current construct - 150 / 10 u PE

Capability

Soap brand images used for illustration purposes only

Paper: Green Stiffener (Wave 1)

ITC - PACKFORA

Replacement of PE coating on paper

9000 TPA Potential

75 Cr. Potential

Soaps Industry

Sustainability driver

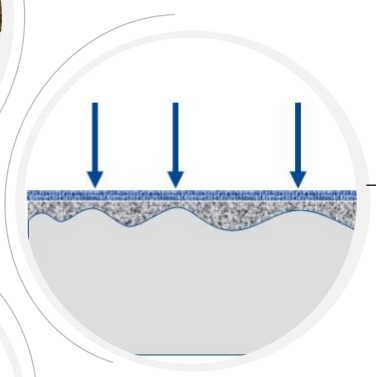
Market Sizing

Key Actions

Unilever, vvf (A Partner of Choice), Godrej, wipro, Reckitt Benckiser, Jyothy labs

Strategic Client Pitch

~ 6 potential clients , 1 project commercialized with HUL



Product Development

Commercial scale up established with HUL.
Challenge tests & staining assessments done for potential clients.
Fungicide treatment & barrier coating are key requirements.

Cost Modelling & Sustainability

8-10 % cost upcharge post source reduction.

Project Management

Clear network, weekly calls & identifying new potential opportunities / categories.

Launch Ambition: Launched

Green Stiffener

- **Uniqueness of the project:**
- Substitution of LDPE coating, Source reduction, Safe passage without any mold growth and sticking of fibers to the Soap Bar, Stain resistance and Recyclable

- **Replication potential of the project in Indian Industry:** ~20% of the Indian soap market has adopted this new alternative to plastic substitution and Indian produce has the potential to find markets beyond India in the South Asia and South East Asia regions

Environmental Benefit

- Filo Series : Preventing ~ 90,000 tons per annum of plastic from going into landfills and the
  - At an emission factor for Polystyrene of 2.46 MT of CO_2 equivalent / ton of finished product , close to 2.21 Lakh tons of CO_2 emission can be prevented

- Green Stiffener : Replacement of ~ 750 tons / year of LDPE with a eco friendly coating
  - At an emission factor for LDPE of 1.76 MT of CO_2 equivalent / ton of finished product , close to 1232 tons of CO_2 emission can be prevented

- Source for emission factors : https://www.epa.gov/sites/production/files/2016-03/documents/warm_v14_containers_packaging_non-durable_goods_materials.pdf (page 76 of 82)

Challenges & Solutions

- Filo Series
  - At the machine
    - Blocking – solved by optimal drying
    - Solution sticking to the rollers – rheology modification
  - At the Convertor
    - Sticking post punching / creasing – recipe modification
    - Odor – recipe modification
    - Temperature – tighter temperature controls within 150 to 170 deg C
  - Creating Awareness
    - Created a plastic substitution microsite and communicated across our database

- Green Stiffener
  - Adoption of a wet strength resin prevented the waste from being treated with regular paper production waste – solved by using a re-pulping agent enabling waste to go into the regular stream
  - Ensuring this grade did not contaminate other food grade paperboards – solved through surface treatment in the size press and avoiding addition at wet end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