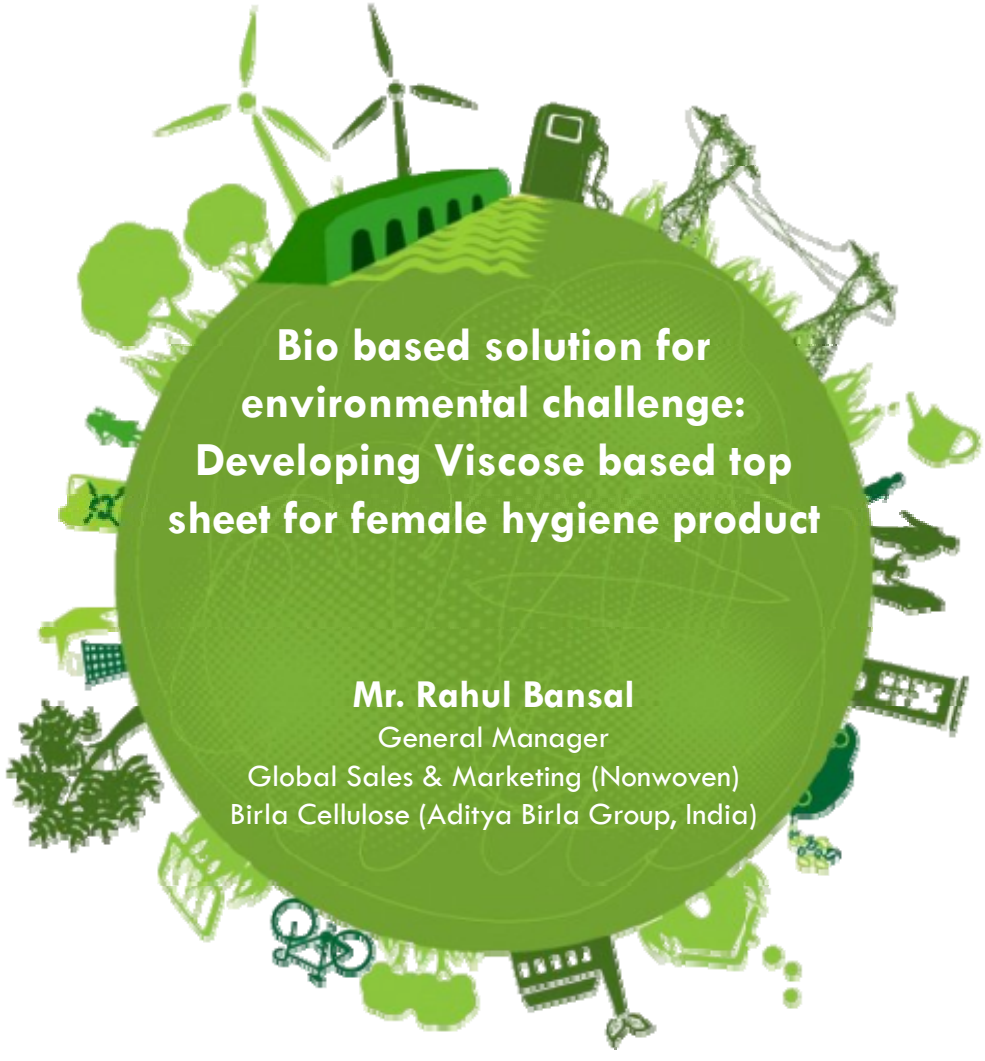
Birla purocel™
because we care



Bio based solution for environmental challenge: Developing Viscose based top sheet for female hygiene product

Mr. Rahul Bansal
General Manager
Global Sales & Marketing (Nonwoven)
Birla Cellulose (Aditya Birla Group, India)

Aditya Birla Group (ABG) – Introduction

A USD **48.3 Billion** Corporation

In the League of **Fortune 500**

120,000 Employees from **42 Nationalities**

Operates in **34 Countries**

Globally, the Aditya Birla Group is

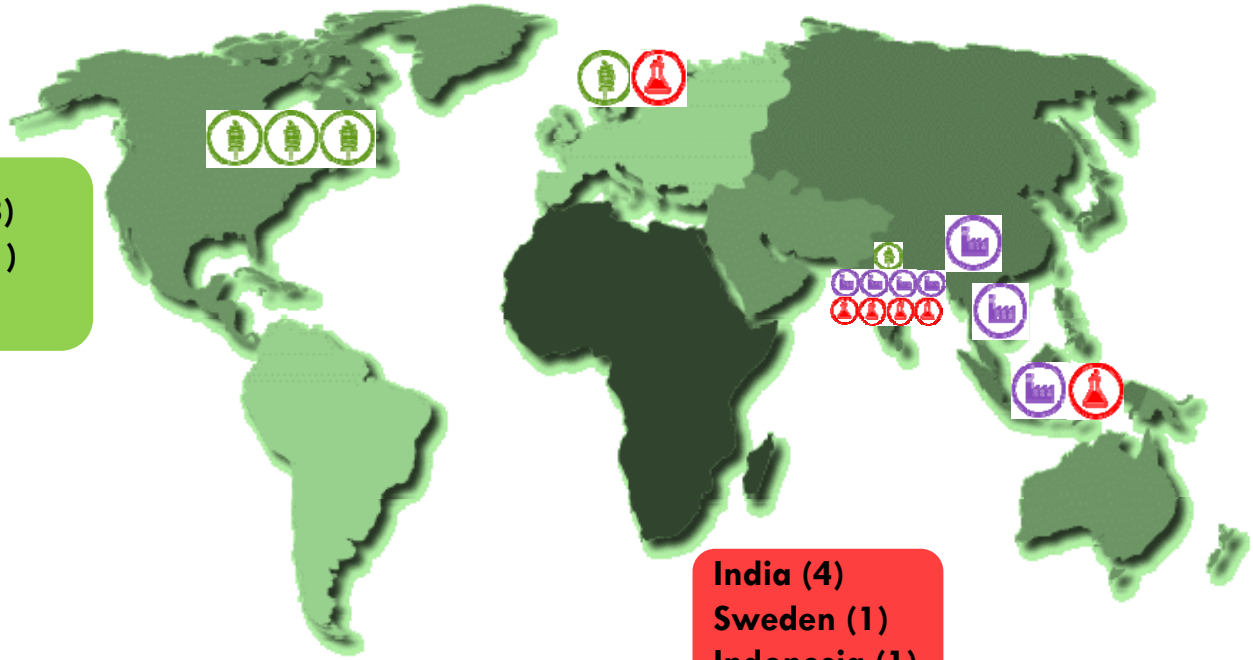
Aditya Birla Group (ABG) – A Global Conglomerate!

Birla Cellulose – Introduction

Pulp Units (5)

R&D Centres (6)

Fibre Plants (7)



Canada (3)
Sweden (1)
India (1)

India (4)
Indonesia (1)
Thailand (1)
China (1)

India (4)
Sweden (1)
Indonesia (1)

Birla Cellulose – Globally one of the largest VSF producers!

Birla Purocel – VSF for Nonwoven

Birla purocel™ because we care

Is not just a brand

It is our continued commitment to work with our partners to create mutually beneficial and sustainable solution for the consumers and the planet

Built on the tenets of caring for

Planet

Innovation

Partnership

Birla Purocel – Because We Care!

Succeeding with Sustainability

Voluntary Action	Regional Phenomenon	Insulated Balance Sheets
Enhanced Regulatory Pressure	Sustainability Provisions in Trade Agreements	Direct Cost of Environment Footprint
Increased Consumer Activism	Regulation Standardization	Large Consuming Population by 2030
Forced Compliance	**Rapid Global Transition**	**Linked Balance Sheets**

By 2030, demanding law and regulation with shrink the business operating space

Environmental Friendliness ≠ Business Competitiveness

Nonwoven Industry – Current Challenges

Challenges	Landfill Issue	Marine Pollution	Sewage Clogging	Chemical Heavy
Regulatory Pressure Building Upon	Disposable Hygiene	Single Use Plastic	Non Flushable Wipes	Preservative Infused

SUPD Regulations Worldwide

EU

India

California

South Australia

More Countries & States to follow…

Nonwoven industry immediately needs sustainable alternatives

Raw Material is the Key to Sustainability

Alternative Materials – Benefits & Challenges

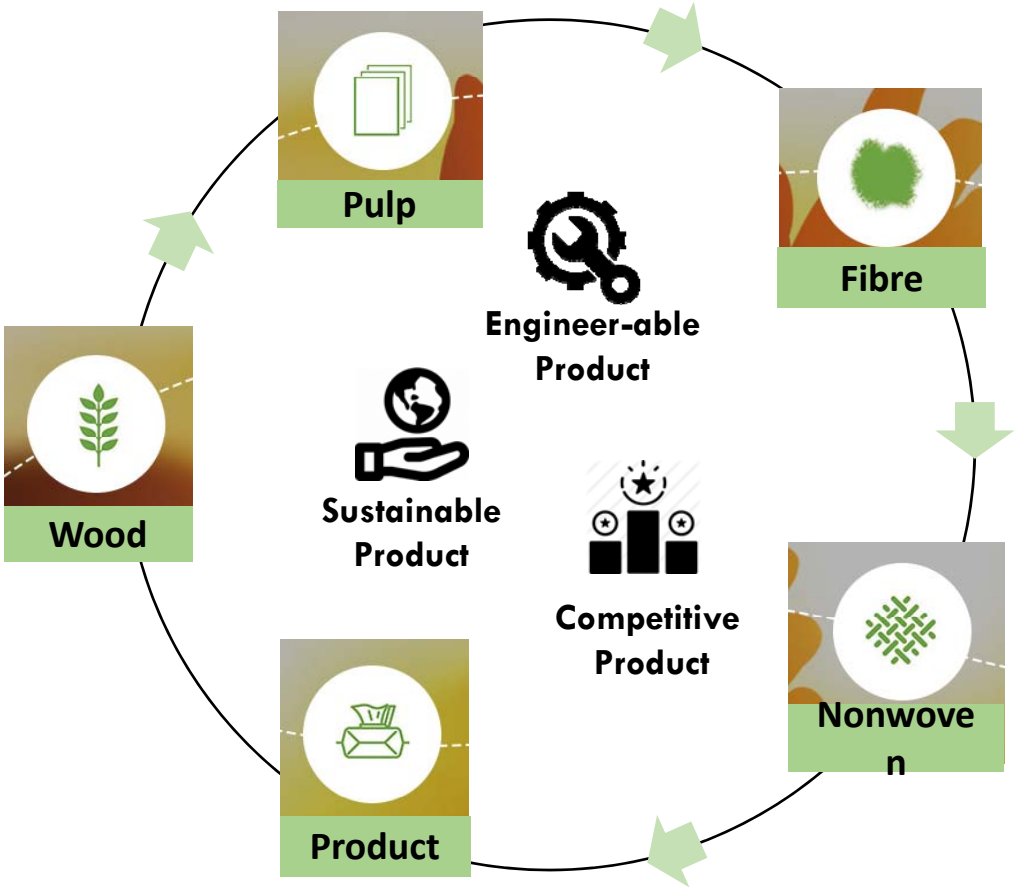
Natural	Regenerated Cellulose	Plastic/ Synthetic
Fully Biodegradable	Fully Biodegradable	Non Biodegradable
Contamination Possibility	Contamination Free	Contamination Free
Limited Engineering Possibilities for Multiple Uses	Engineering Possibilities for Multiple Uses	Engineering Possibilities for Multiple Uses

Regenerated Cellulose combines the advantages of Natural & Plastic/Synthetics

Exclusivity to Co-creation

Paradigm shift in Value Chain Partnerships

Value Chain Partnership

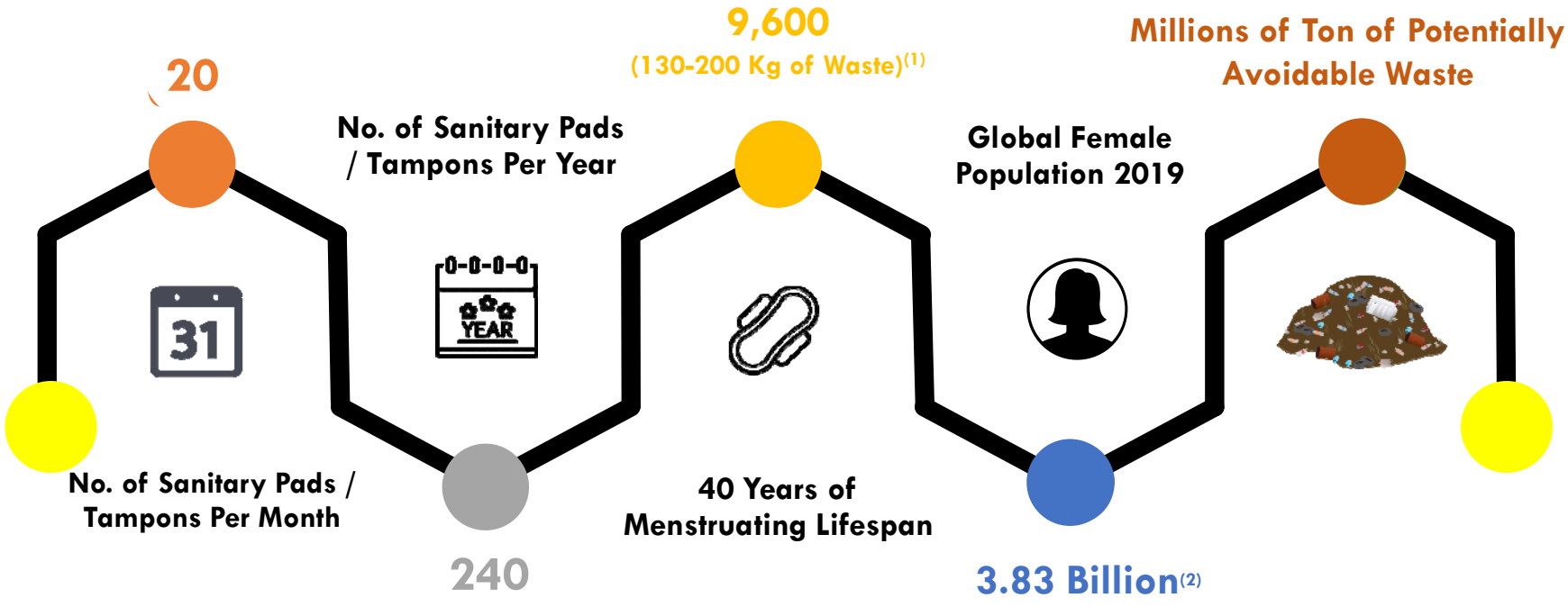


Collaboration is the fastest way to solve world problems

Sustainable Female Hygiene Products

Tackling Landfill Issue

Female Hygiene Products (FHP) – Current Challenges



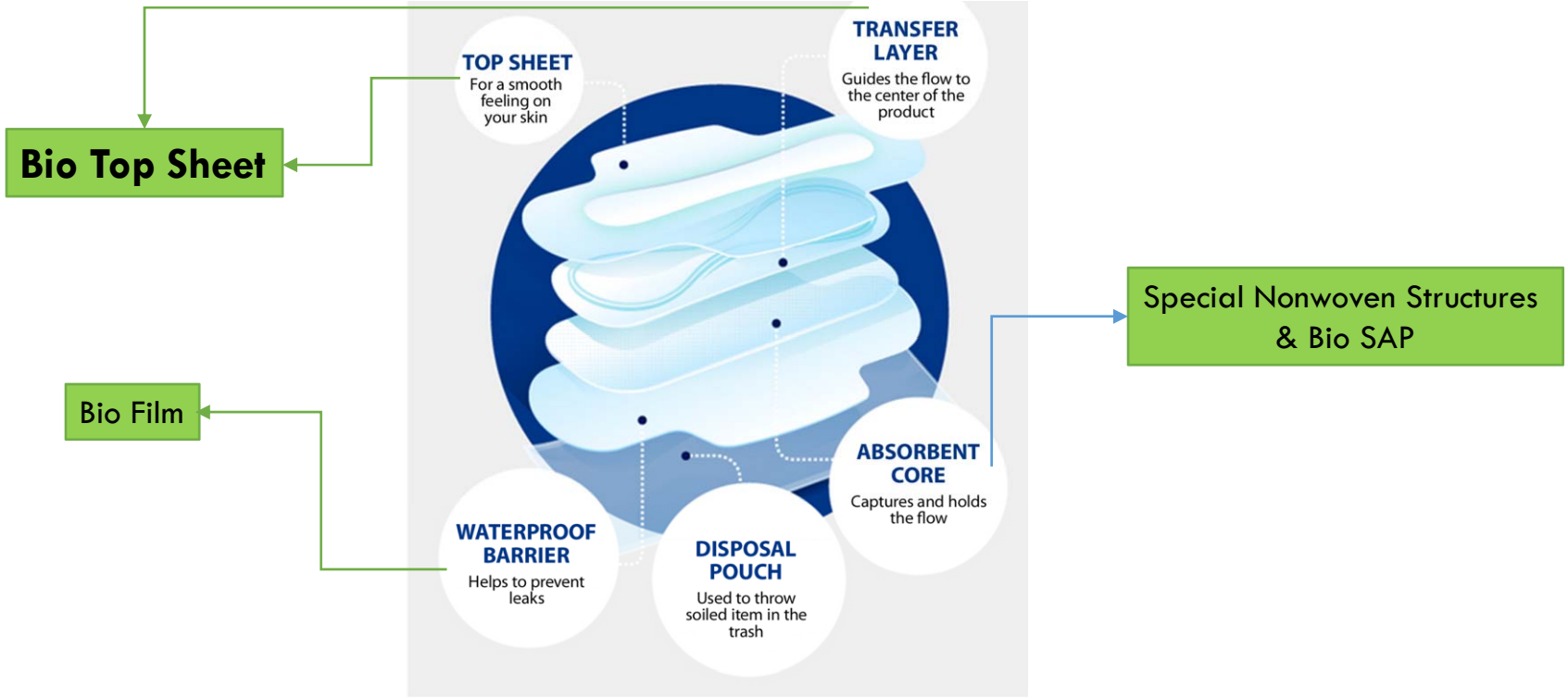
Source: Sustainable Menstruation- The Impact of Menstrual Products on the Environment

(1) What is the environmental impact of menstrual products?

(2) World Population

With increasing population & penetration of FHP – we've much bigger problem!

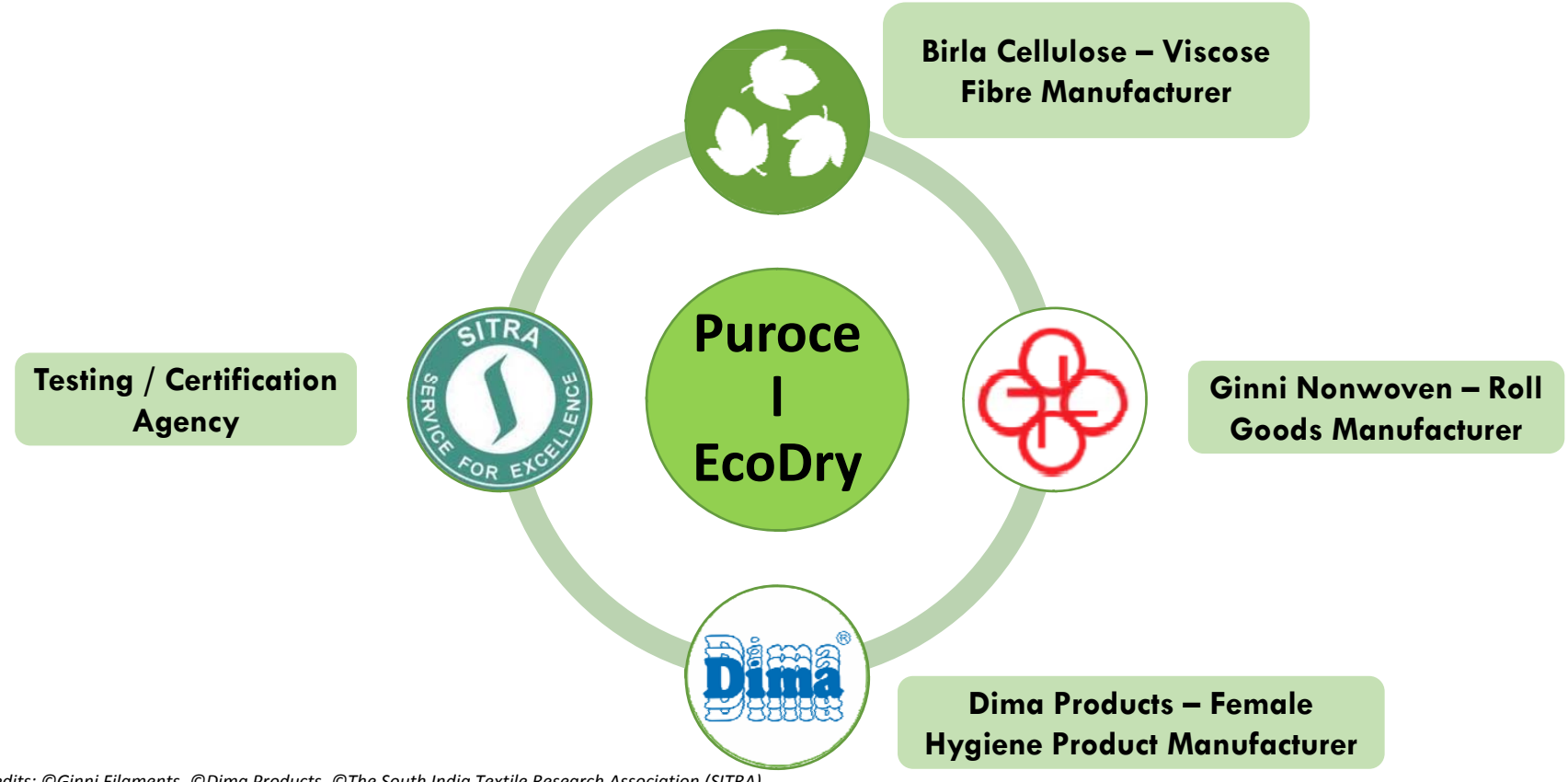
Sanitary Napkins – Layer wise Alternatives



Source: https://eufactcheck.eu/factcheck/uncheckable-conventional-menstrual-pads-are-made-up-of-90-plastic-materials/ & Credits: ©Vania

Layer by layer approach to make a fully biodegradable sanitary napkin

Our Co-creation Approach



Logo Credits: ©Ginni Filaments, ©Dima Products, ©The South India Textile Research Association (SITRA)

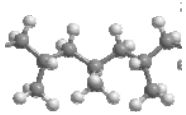
We were able to approach the FHP issue in fastest way only due to co-creation

Sanitary Napkin – Qualifying Criteria

Test	Description	Standards
Absorption	It should absorb 30 ml liquid flowed on to the center of sanitary napkin (at the rate of 15 ml per minute and it should not leak through back sheet of napkin.	WSP 070.3 & ISO 9073-8
Repeated Liquid Strike Through Test	It is defined as the time taken for a known volume of liquid to pass through the sanitary napkin till it's back sheet, the test is usually conducted for three consecutive times.	WSP 70.8 & ISO 9073-14
Wetback	It examines the ability of sanitary napkin to resist the transport back onto the skin through the top layer after repeated liquid strike through test	WSP 70.8 & ISO 9073-14

A top sheet meeting above criteria can be used in a sanitary napkin

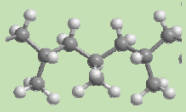
Sanitary Napkin – Top Sheet Overall Comparison

Criteria (1-Lowest, 5-Highest)	 Polypropylene	Purocel EcoDry (Viscose)	Cotton
Price	5	4	2
Biodegradability	1	5	5
Performance	5	5	3
Ease of Processing	5	5	3
Total Score	**16**	**19**	**13**

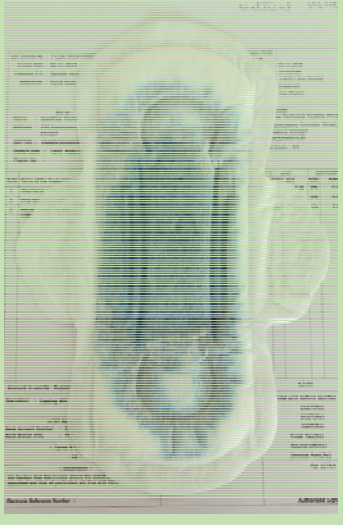
Purocel EcoDry combines the advantages of Cotton & Polypropylene

Sanitary Napkin – Product Comparison

(Absorbency Test – 30 ml in 2 Minutes)



Polypropylene



Purocel EcoDry (Viscose)

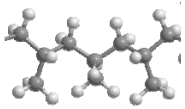
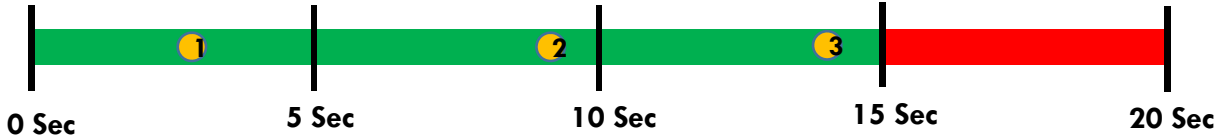
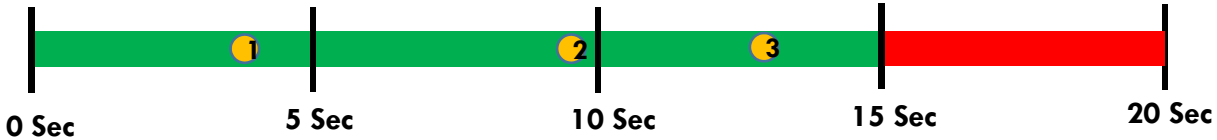
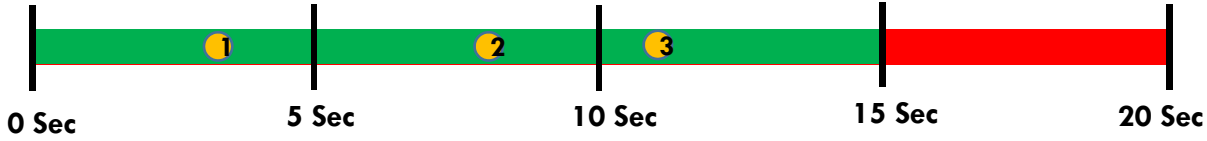
Cotton

Absorbency tests performed as per WSP 070.3 & ISO 9073-8 standards, this test is like a quality check for sanitary napkins

Purocel EcoDry top sheet based sanitary napkins passes the quality check

Sanitary Napkin – Product Comparison

(RLSTT & Wetback)

Top Sheet Type	Repeated Liquid Strike Through Test (Seconds/10 ml)	Wetback (%)
 Polypropylene		100
Purocel EcoDry (Viscose)		~125
Cotton		~182

Repeated Liquid Strike Through Test & Wetback Test performed as per WSP 070.3 & ISO 9073-8 standards

Purocel EcoDry top sheet based sanitary napkin checks all the performance boxes!

Introducing Purocel EcoDry Top Sheet

Biodegradability

- Soil
- Water
- Marine

Physical Performance

- Fast Absorption
- No Wetback / Dry
- Sufficient Shear Strength

Comfort Performance

- Soft to Skin
- Breathable
- Hypoallergenic

Purocel EcoDry Top Sheet for Hygiene Products

Exploring Sustainable Solutions to Nonwoven Industry Challenges

Tackling other Issues

Constantly Striving towards Sustainable Solutions

Challenges	Landfill Issue	Marine Pollution	Sewage Clogging	Chemical Heavy
Sustainable Products	Purocel EcoDry	Biodegradable Single Use Products	Purocel EcoFlush	Purocel AntiBac

Our sustainability quest to solve world problems

Create innovative & sustainable applications with Birla Purocel

Rahul Bansal | Rahul.Bansal@adityabirla.com | +91 84240 25156

Our journey to create even more innovative fibres continues with your support