



PAPER - PRESERVING FRESHNESS

As per **Smithers Pira**, the global market for food contact paper and board, currently valued at over \$53 billion, is forecast to grow by 6% annually, reaching an estimated \$70 billion by 2017, with the Asia-Pacific region driving the growth (*Chinese consumption of these materials is expected to increase by almost 11% annually*).

As per the study, the fresh produce sector will contribute the highest volume of additional demand in 2017 at 2.5 million tonnes, as compared with 2012 consumption, with dry groceries adding a further 1.8 million tonnes and liquid food and beverages yet another million tonnes. Totally the market will require an additional 7.5 million tonnes by 2017 to satisfy demand.

WHAT ARE THE DRIVERS ?

Food wastage is a major issue across the world. Per capita wastage of food in North America and Europe is estimated to be 95-115 Kgs.

For India the figure is comparatively low at 6-11 Kgs. But, even this seemingly meagre wastage accounts for annual agriculture produce loss worth Rs. 50,000 crore, enough to feed around 300 million poor in the country every year.

Food preservation is a priority for all countries.

WHY PAPER PACKAGING ?

While the debate of paper vs plastics and metals has been on for several decades, paper has scored over others for the following reasons :

- Biodegradability
- Amenable to functional treatments
- Compressibility

The advent of aseptic packaging for liquids, however, may be the real clincher !

ASEPTIC PACKAGING

One of the greatest innovations in the packaging world has been the development of aseptic packaging by the Swedish company **Tetra Pak**.

Tetra Pak, led by Ruben Rausing the founder, had been looking for a simple answer to a difficult question.

How could milk in its glass bottle be replaced with something more practical while still protecting its goodness? The answer led to a radical new packaging technology.

The package required a minimal amount of material, while

providing maximum hygiene and minimized storage space. Since then the pyramid shaped carton '**Tetra Classic**' has served as an example of intelligent design and a source of inspiration for the world.

Today, three quarters of the global juice volume is processed and filled aseptically in carton packaging for ambient storage, at much more affordable prices than chilled juice products in metal cans.

In an aseptically processed product there is no microbial activity, and it is the package's oxygen and aroma barrier that determines the shelf-life. This barrier prevents oxygen from penetrating 'into' the package, and the smell and flavour of the product from migrating 'out' of the package.

It allows liquid food to retain colour, texture, natural taste and nutritional value for up to 12 months without refrigeration.

Apart from juice based beverages (*accounting for nearly half the global market for 'soft drinks'*) research forecasts that flavoured milk consumption will grow at more than double the rate of white milk globally between 2012 and 2015.

75% of a Tetra Pak carton is composed of paperboard hence is a good environmental choice. It is mainly produced from a renewable resource, and thus has a low environmental impact as regards CO2.

GUIDELINES FOR FOOD CONTACT PAPERS

In the US, packaging of food products have to conform to strict FDA regulations.

In Europe, CEPI, *the Confederation of European Paper Industries*, and CITPA, *the Confederation of Paper and Board Converters*, have recently revised their Industry guideline for the compliance of paper and board materials and articles for food contact.

The specific aspects covered in this first revision are :

- *the publication of the new CEPI Good Manufacturing Practice (GMP)*
- *the coming into force of Commission Regulation on plastic materials and articles intended to come into contact with food, (EC) No 10/2011)*
- *the update of German Recommendation on paper and board for food contact (BfR Rec. XXXVI), and*
- *the concerns over the presence of mineral oil hydrocarbons in food*

INDUSTRY NEWS

Straw based copier paper produced in India, has found its way to Canada's premier stationery store 'Staples'. It is being marketed by Canadian Paper Co., **Prairie Pulp & Paper Inc.** under the brand name '**Step Forward**'. Claimed to be the most environmentally - friendly paper of North America, it is composed of 80% straw and 20% FSC certified wood fiber. The Co. plans to put up their own plant in Canada, based on the technology from India.

CURRENT CONCERNS

Recent studies on mineral oils found in foodstuffs have raised concerns about consumer safety.

According to these studies, traces of mineral oils migrate to food from inks found on the printed surface of packaging and in recycled packaging papers. Although no toxicological studies on the effects of human exposure to mineral oil traces currently exist, the paper-based packaging industry has taken this matter very seriously and is proactively working to address concerns.

In order to formalise and further strengthen its efforts to reduce the use of mineral oils, the industry has agreed on a Europe-wide self-commitment. This will phase out the use of printing inks based on mineral oils for printing paper and board packaging, and mineral oil-based process chemicals for food contact paper and board packaging material.

The concern about mineral oil leaching into packaging has prompted **Mayr-Melnhof Karton** into a major research project at their R&D Centre at Frohnleiten. As part of a multi-million Euro investment within last 2 years, the mill has developed a new board called '**Foodboard**' and has been successfully confirmed by comprehensive long term tests with major food manufacturers.

According to their R&D Head "*This is a worldwide invention that provides a complete barrier against mineral oil migration*". **MMK** is ready to launch **Foodboard**, whenever legislation is passed against mineral oil migration (*expected in Germany within a year*).

FUNCTIONAL AND BARRIER COATINGS

Functional and barrier coatings cover a broad spectrum of material, coated on to paper and board. Barrier requirements

cover such materials as water and water vapour; oil and grease, oxygen and aroma. 90% of these products are related to food packaging.

The increased focus on recycling and sustainable packaging is driving the trend for **water-based barrier coatings** to replace fluorocarbon and extruded polymer barrier coatings.

This simple concept keeps contents in, the external atmosphere out, and helps maintain the strength of paper and board packaging by preventing moisture / grease absorption.



Pigment-filled water-based barrier coatings are found superior in barrier properties, optical properties, runnability, blocking resistance, and cost effectiveness.

Water-based barrier coated paper and paperboard gives following useful properties : Moisture resistance; Oil and grease resistance; Aroma barrier. End users who benefit from these properties are : corrugated cases, multi-wall sacks, folding cartons, liquid containers.

Imerys has developed new water-based barrier coatings using novel kaolins as part of their BARRISURF™ product line. Another recently developed product is **Cartaguard KHI** of **Clariant Chemicals**. Although based on fluorinated chemistry, it is stated to be harmless. Manufacturers can now produce more viable, safer grease resistant packaging.

CONCLUSION

Worldwide, people are looking for reassurance when it comes to the products they consume. Almost 60% of consumers globally worry about the safety of the food they buy. Packaged food and drinks have gone a long way in providing the much needed assurance.

QUOTABLE QUOTE	"The pessimist complains about the wind, the optimist expects it to change, the realist adjusts the sails" - William Arthur Ward	
SCRABBLE	What does X R F stand for? (Hint : Analytical method) First correct answer will win a Parker Vector Roller Pen (Maximum two prizes for one person in a year). Email your answers to snippets@wirefabrik.com by 20 th August, 2013.	
WINNER JULY'13	Mr. Panneerselvam K., AGM (Paper), Tamilnadu Newsprint and Papers Limited, Kagithapuram, Dist. Karur - 639 136 Answer : Z P : ZETA POTENTIAL	
?QUIZ	Check the right answers a) All paper machine deposits are inorganic in nature. b) More slime is generated in acidic system. c) AKD gives more deposits than ASA. d) Both bacteria and fungi contribute to slime generation. Email your answers to snippets@wirefabrik.com by 20 th August, 2013.	
WINNER JULY'13	Mr. Mohd. Naseem, GM-Production, Middle East Paper Co., P.O. Box - 32913, Jeddah - 21438, K.S.A. Quiz : Which two of the following are not paper defects ? a) blackening b) blisters c) whiskers d) cockle e) foxing f) snailing g) fading h) roping Answer : c) whiskers g) fading	
 Prizes	1. Best / first correct answer received will win one-year subscription to IPPTA Journal (Maximum one prize for one person in a year). 2. Best of the 12 monthly winners in a year, will win one-year subscription to Paper 360^o Magazine, USA .	
 Attention to Details	<i>The well-to-do farmer was driving into town in his new Nano. Sensing a disturbance, he stopped and opened the bonnet and was aghast to find no engine inside. His more prosperous neighbor driving by in his imported car stopped by to help. Smiling superciliously he said "Trust the Europeans. They leave nothing to chance." Opening the boot of his car with a flourish, he declared "See they even provide you with a spare engine".</i>	
Published by >>	Wires & Fabriks (S.A.) Ltd, JAIPUR-302012, India.	Phone: +91-141-2341722 Fax: +91-141-2340078 Email: snippets@wirefabrik.com
		Only For Private Circulation

Website: www.wirefabrik.com