

# Security Papers For Future Security

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## INTRODUCTION

The most effective way to fight against fraudulent use of security paper is to build-in counter measures at the paper formation stage. With the technology racing ahead, advanced printing and colour copying equipment is making the forger's job easier and anybody who produces paper with any value is being forced to look closely at the safeguards it offers. For the security papermaker this means trying to impart visible and invisible special features in the stock preparation and paper making stage.

The security paper market is growing rapidly and competition is bringing in many more security paper makers with innovative techniques to grab this niche segment. The number of commodity Paper Mills attracted by the high added-value nature of security products are also adding to the level of competition. These mills are beginning to appear at the lower value end of the market as their own business come under intense pressure and they are seeking new opportunities for survival.

On the world stage, Asia, Latin America and to a lesser extent North America, are all markets which grew up after World War II and are still developing. European security paper manufacturers started much earlier and they have effectively enjoyed a 50-year lead on producers elsewhere. In Europe, security papers have grown to become dominant force in the European specialty paper sector.

Counterfeiting of not only the currency but also number of other security documents has become a high return business for many, recently. It had become a cause of concern not only to the Reserve Bank of India but also to the investigating agencies. The situation has already reached an alarming stage and urgent steps required to safeguard security of our country and to build a secure future.

This paper describes the world trend, security papers with variety of security features, the future for

many different security papers and technological advances which will lead to significant changes in the next millennium.

## WORLD TREND

By 2010, world population is expected to increase to about 7 billion people and about 60% will live in Asia-Pacific region. Asia will increase its consumption of paper and paperboard from 29% of the world total in 1993 to 38% in 2010. Asia has tremendous potential for Specialty Paper products and will only grow bigger.

In the year 1996, security papers were the second largest segment of the specialty paper market, accounting for 14.4% volume and 17.6% of revenue in Europe. Despite this strong position though, the attractiveness of the security papers market overall is not expected to last. Volumes are expected to fall to 8.3% of the specialty sector by 2003 and revenue will dwindle to 9.9% of the total. But this is by no means a trend that will be seen across the segment, there is acutally only one specific security product that will account for this change-the check paper. The rapid increase of payment cards is affecting the use of check paper in Europe. The industry insiders agree that the check paper use in on the decline and the rate at which market will slide remains uncertain. The introduction of single currency in Europe could mean a big shake-out for the check market.

The scenario in the world check paper market is not so gloomy. In the traditional markets the checks are on the increase but restricted to 2-3% rise, over the next five years. The watermarked checks are very important for the developing countries and this is where the business is growing.

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Another important grade in the security paper market is Banknote paper. One of the most important security features in this grade is the watermark. The Banknote producers describe the current situation as "extremely competitive." Worldwide Banknote market is growing by approximately 3%.

The Banknote usage is still increasing despite the advent of electronic money transactions. The countries such as China, USA and India have the largest Banknote markets.

The other types of security paper grades available reflect wide number of markets. It is predicted that the share of revenue from documents, tickets and vouchers in the European security paper market will rise from 3.3% this year to 44% by 2001. Other growth markets include Lottery Paper (from 5.2% to 8.0%) and Passport Paper (from 3.0% in 1997 to 3.2% by 2001).

## **TRENDS IN INDIA**

Asia in general and India in particular has tremendous potential for security paper products and will grow at faster rate and may be ranging between 10%-15%. In quantity terms the security paper products demand is estimated at 100,000 MT annually. The production of cheque paper and other security papers is estimated to be around 50,000 MT whereas large quantity of Bank Note paper is imported.

The fibrous raw materials available in the country adequate for production of security papers. In few cases the use of imported wood pulps or long fiber pulps is necessary.

The value addition due to various security features imparted in the final product will vary for each variety and is specific to the end use. In general, the value addition could be as high as 200%.

The details on import of specific variety of security papers are not readily available. The information may be of confidential nature.

The countries from which security papers are imported into our country are France, UK, U.S.A., Germany and may be couple of others.

## **OPPORTUNITIES AND REQUIREMENTS**

In the real world, security papers are required in ever increasing quantities, to counter rapidly expanding sophisticated counterfeiting techniques. A

security paper has to full-fill a number of functions, as well as being secure:

### **DURABILITY**

This is something which is often forgotten. The Banknote paper is one of the most durable security paper produced. The circulation life varies from eighteen months to even hundred months depending on the denominations.

At the other end of the spectrum are documents that are hardly used and termed as "Single Use" documents. These are Lottery Tickets, Match Tickets, etc. A lot of these documents require mechanical properties not similar to writing-printing paper. Between these extremes are documents such as Passports, where durability is important, but not an over-riding requirement.

### **PRINTABILITY**

This is an important requirement and linked with durability of the printed image. Nobody would accept a Banknote or other long life document, which is unreadable towards the end of its life. The Printer therefore goes into minute details to ensure that ink stays on a good printing surface.

Printing of security documents is often different from conventional printing processes. The requirements for Litho printing in the Security Industry is not that different to the requirements in conventional printing.

The standard printing in currency is "Intaglio", which is becoming more common in other security printing such as Travellers Cheques.

The "Letter Press" is still used for individual numbering of documents such as Banknote, Lottery Tickets, etc. Controlled absorbency of the paper is important in Letter Press operations.

### **SECURITY**

The requirements for security vary from application to application. If a document has a low monetary value, but might still be subject to a counterfeiting, it is appropriate to have simple and therefore a cost effective security. This is possible by using a coloured paper which cannot be easily reproduced on a colour copier or ink-jet printer.

Individual watermarks are another relatively simple method of introducing some security to a

document, without incurring major additional costs to the Printer.

As the requirements for security increases, the sophistication, and number, of the security measures increase. For the paper maker, this means, added value of the paper. High Security Papers such as Currency Papers, each individual reel of paper and subsequently each ream of paper has to be identified. In addition, a police or security escort is essential while its distribution.

## **OPPORTUNITIES**

The opportunities in the Security Paper markets are highly variable. They are categorised as:

### **BANKNOTE PAPER**

The decline in use of Banknote paper is predicted now and then. The use of credit cards and similar methods of payment has definitely reduced the use of cash in many developed countries. However, the increase of "Cash Machines" has increased the need for notes to be of certain quality and this has countered the negative effects of Credit Cards. It must be noted that Banknote Paper is not a growth area inline with population growth.

### **PASSPORTS**

They are now increasingly required as a proof of Nationality. The need for such documents has also created a demand for counterfeit passports, which in turn has increased the requirements for security. The typical passport is used for ten years, so durability is also of importance. Eventhough a small market, it is growing steadily, both in volume and sophistication.

The area of new opportunities for paper makers is "Tickets". The counterfeiting is becoming big business due to high prices of tickets. Similarly, Driving Licences which are increasingly used for identification, require some form of security against counterfeits. The market is however, small in volume.

In many countries, Government departments issue official documents on Security Paper, varying from Excise Stamps, Official Notices to Certificates, etc. This market is also quite large and need to be expored.

A relatively new market is Product Verification Document, which is growing rapidly. The type of products requiring such verification range from-

Software, Jeans, Special drugs and Aircraft components, etc.

## **SECURITY DEVICES**

### **WATERMARKS**

The most widely used method of increasing a paper's security is with a watermark. There are one-tone watermarks, two-tone watermarks and multi-tone watermarks. Depending on the level of security requirements one can select appropriate watermarks.

### **SECURITY THREADS**

The use of Security Thread was exclusive preserve of Currency Paper. However, Security Thread is now promoted in other documents such as Certificates, Bonds and Passports. This is obviously a future growth area.

### **PLANCHETTES**

Traditionally, Planchettes were made from paper, punched into small discs of about 2 mm diameter. Recently different materials are used which significantly increase number of possible effects. These include materials that change colour with temperature, chemical vapour and UV light. It is also possible to punch them in shapes other than discs, common shapes are triangles and hexagons.

Planchettes can be placed in lines, or bands. Within the paper sheet, are very effective when used in association with a watermark.

### **SENSITIVITY**

The major threat is not in the printed forgery but individuals changing an individual cheque value from say Rs. 50 to Rs. 50,000. To counteract this, chemicals are added to the paper furnish that react to a wide range of ink eradicators, such as acids, alkalies and wide range of alcohols and organic solvents.

It is often necessary to use different mix for different customer requirements. The paper make has to ensure that all the chemicals are compatible and do not change the shade of paper before use.

### **FUTURE TRENDS**

The future for many different varieties of security paper is unclear and technological advances are making

alternatives a real option. Security paper makers are fighting back to overcome a period of significant change.

Security paper will become a base for carrying encrypted information, making it far superior to the current method of using a magnetic stripe which can be easily counterfeited. This type of paper called as "Intelligent Paper" is likely to be launched within the next five years. Then the Security Paper market could prove to be a very secure investment for the future security. It is in the interest of country's security, faith in the Government Securities, Certificates, Educational Institutions to ensure that the Security Paper used in future is TRULY SECURE.

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