

Bangladesh joins world of polymer currency

by Abdur Rahman Khan

BANGLADESH joins the advanced world of polymer currency with the introduction of a new Ten Taka note printed on polymer plastic substance.

Of late a fresh currency note has become a rare thing to get. The currency notes that are in circulation today have become so dirty because of overuse that people feel it unhygienic to touch them. Some are even afraid that the old notes might carry some germs. Sure, the notes soil the hands of a man. And it was necessary to devise some way to make the notes clean and durable.

The note printed in light rose colour contains the image of the father of the nation, the national mosque, the national parliament and the national memorial for the unknown martyrs of the war of Liberation.

The new Ten Taka note was formally introduced on the occasion of the martyred intellectuals day on December 14 from the Motijheel head office of Bangladesh Bank. Later it was made available at the counters of other branches of the central bank.

As security features, the note contains the watermark of the face of a Royal Bengal Tiger, an optical thread and the national flower - water lily - on the see-through window.

According to Bangladesh Bank sources, the new Ten Taka polymer notes have been printed by the Note Printing Australia (NPA, a subsidiary of the Reserve bank of Australia that pioneered the introduction of polymer notes in 1988.

Meanwhile, polymer currency has been introduced in 15 countries including Malaysia, Indonesia, Singapore, Thailand, New Zealand, Kuwait, Brunei, Sri Lanka, Romania and Papua New Guinea. China joined the world of polymer currency in the early December.

According to Note Printing Australia, polymer notes offer a long term future because they accommodate new and varied security devices, which are just impossible with paper notes.

The primary purpose for developing polymer note technology was to enhance the security of notes against counterfeiting.

Australia released the first commemorative \$10 polymer note and following the encouraging results from a field trial of the new technology in 1988, the Reserve Bank of Australia decided to release a new series of notes using the new polymer technology.

The first of these, a \$5 note, was released in July 1992 and the last, a \$100 note, was released in May 1996.

Meanwhile, Australia has seen a significant reduction in counter-

feiting activity. One of Australia's major achievements is that the introduction of polymer notes appears to have stopped the "casual" or "crime of opportunity" counterfeiter totally.

However, despite the significant drop in counterfeiting the risks are ever present and polymer note technology has many new security features ready to meet any future threat. The earlier examples of self-authenticating features are just the start.

Australia uses Guardian® substrate from Securrency, a joint venture of the Reserve bank of Australia and a Belgian multinational company - UCB Films. The Guardian substrate is based on a specialised form of Biaxially Orientated Polypropylene (BOPP) made exclusively by UCB Films.

Even though there are commer-

cial forms of BOPP available (traditionalists need to remember that there are commercially available rag papers), the film produced by UCB when combined with the unique tried and proven coatings and subsequent security

also be significant. The types of machines involved in the survey included note counters, note acceptors, and note dispensers. Australia moved to polymer substrate to improve the security

for Securrency substrate and does not generally come in the same thickness (or usually the same clarity) as the Securrency's substrate.

Relative to paper notes polymer notes perform better since polymer notes are, on average, of better quality. It deposits less inks and dirt on transport belts and sensors. Polymer notes feed and count better because polymer notes are stiffer.

The improvements are reflected in a variety of ways, less jams, fewer service call outs, and reduced maintenance staff.

Recent surveys of users and suppliers of machines that process notes have confirmed that polymer notes are better for machine processing than paper notes.

The extent of improvement can

strate and the overcoating of finished notes with a clear varnish mean that the notes do not absorb moisture (oils, sweat, beverages, etc) like paper notes. These same properties also mean that the notes do not stain or accumulate dirt as easily as paper notes do.

The non-fibrous nature of the polymer substrate also means that the substrate does not physically break-down with repeated folding, as occurs with paper notes which, in part, causes paper notes to go limp.

The toughness of the polymer substrate makes it much more difficult to initiate a tear in a polymer note compared to a paper note (although it is true that once a tear is initiated in a polymer note it propagates more easily than in a paper note, the initial toughness appears to be the over-

riding characteristic).

The results of a survey of public acceptance and performance conducted at the end of the trial of polymer note technology in 1988/89 indicated that 88% of those surveyed perceived a major advantage of polymer notes was their resistance to damage; and 87% appreciated the notes' cleanliness.

Australian experience shows that the cleanliness aspects of polymer notes are

much appreciated by the public and cash handlers.

The Note Printing Australia has been using the full range of security features possible with polymer so far, as the use of the simple transparent window (with printing and embossing within it), in conjunction with "normal" printed security features.

As the same printing processes are used for paper and polymer bank-notes, all security features printed on paper can also be applied onto polymer. These include intaglio, offset and letterpress printing for features such as tonal portraits, latent images, micro-printing, intricate background patterns, see-through registration, visible or invisible fluorescent or phosphorescent features, and the use of "metallic", metameric or metachromic inks.

The polymer substrate is also an excellent surface for the application of optically variable ink (OVI), as it enhances its colour shift characteristics.

The watermark and machine readable thread features of paper notes also have their full equivalent in polymer notes.

Meanwhile, The Note Printing Australia has developed the technique to recycle the outsourced polymer bank-notes to produce wide range of plastic products.

In this process, old polymer bank-notes are granulated to form small pellets, which can be used as feedstock in manufacturing of a range of every day plastic products. □



Facsimile of a ten taka polymer note.

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features, has many advantages as a security substrate:

Guardian® will not run through a modern colour copier. This forces counterfeiters to use alternative plastics; alternative plastics are generally not available in the thickness needed and so have to be laminated together.

Many plastics do not have the clarity needed or cannot be opacified without loss of clarity of the window; alternative plastics have distinctly different sound and feel to Guardian®.

Further still, other commercially available BOPP is produced by a different technique to that used

of Australia's bank-notes. In addition to achieving improved security, polymer notes are proving to be significantly more durable and cost effective than paper notes. Australians have experienced a quadrupling of the average life of our low denomination notes with the move to polymer, more than offsetting the higher costs of production of polymer notes.

Australia's higher denomination polymer notes have not been in circulation long enough to be precise about their longevity, but indications are that we will see similarly impressive performance.

The non-porous and non-fibrous nature of the polymer sub-