



## Kuwait commemorates liberation from Iraq



The front of the 1 Dinar banknote.

**KUWAIT RECENTLY ISSUED A 1 Dinar commemorative polymer banknote that has been well received by the public.**

The banknote marks the 10th Anniversary of the country's liberation from Iraq on 26 February 1991.

The polymer banknote demonstrates a range of security features including a clear window, intaglio printing, and offset security patterns on the front and back. A thumb print forms the image of a Diffractive Optically Variable Device (DOVD) which is a megapixel type defraction grading with demetalised foil.

A spokesperson for the Central Bank said the commemorative note signifies the cycle of development and progress after the liberation of Kuwait, which restored levels of social and economic activities to normal.

The spokesperson said the assistance and support offered by the people and governments of 34 "brotherly and friendly countries, and international organisations" would be remembered on Liberation Day.

## Leading edge security for Romania

**ROMANIA HAS INCORPORATED state-of-the-art security devices into its new notes as it makes the changeover to polymer.**

Following the success of the 2,000 Lei, the National Bank of Romania (NBR) issued a 10,000 Lei polymer banknote in September last year, and a new 500,000 Lei note in October.

The 10,000 Lei banknote is a polymerisation of the previous paper note, but closer investigation reveals a list of discreet security features.

These include shadow images of a portrait of Nicolae Iorga and the NBR logo, both of which are visible when held up to the light. There is also a see-through design of a Gentian flower, partly printed on both sides of the banknote, matches perfectly when the note is held up to the light, and a transparent window showing the embossed denomination '10,000' is visible from either side of the note.

The 500,000 Lei polymer banknote builds on the security features found in the 10,000 Lei note by incorporating security aspects that can assist the public to authenticate the note.

The 500,000 Lei polymer banknote is the first banknote to incorporate the exclusive Transparent Intaglio Disappearing Effect (TIDE™) to deter reprographic counterfeiting.



The 500,000 Lei banknote is the first note released incorporating the TIDE™ feature which defeats photocopiers and scanners.



The 10,000 Lei banknote is a polymerisation of the previous paper note.

The TIDE™ feature, which has been patented by Note Printing Australia, is just one of many innovative security features of polymer based technology. Transparent intaglio ink is combined with a reflective metallic substrate to create images that change colour or shape under different lighting conditions and viewing angles.

It also incorporates a range of security and design elements that can only be detected by staff of the banking system using special equipment.

These polymer banknotes are now circulating alongside the 10,000 Lei paper note which is to be withdrawn from circulation.

# Polymer banknotes reduce counterfeiting

## AUSTRALIAN EXPERIENCE has proven that the threat of counterfeiting can be dramatically reduced by switching to polymer banknotes.

The number of counterfeits has declined significantly since Australia's entire series of paper notes was converted to polymer between 1992 and 1996.

On average, fewer than 200 counterfeits are passed each month – less than four counterfeits per million notes in circulation each year. Although figures for the 1999/2000 financial year showed a slight increase over the previous year, counterfeiting activity was still significantly lower than earlier years.

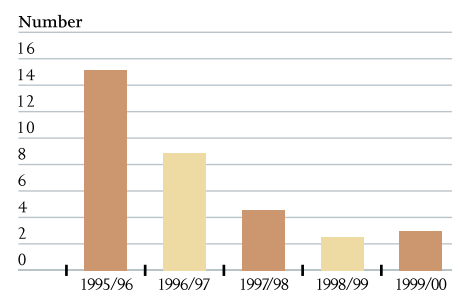
Most counterfeits were relatively crude reproductions of polymer notes on paper, and these were easily detected.

Fundamental to the security of polymer notes is the ability to control transparency, from perfectly clear to fully opaque. This has resulted in new and effective, yet conceptually simple, security features.

The presence of the clear window made it easy to do a first-level check on the authenticity of a note just by casual observation. 'Self-authenticating' features can be incorporated into the clear window, and all substrate features are closely integrated with traditional print and add-on security features.

Counterfeits printed on other plastics sound and feel distinctly different to notes produced on the polymer substrate.

By increasing the range of skills and number of steps required to produce the notes, the use of a polymer substrate has also made it more difficult, time-consuming and costly to produce a counterfeit banknote.



Counterfeits passed per million notes in circulation.  
Source: Reserve Bank of Australia.

## Media Corner

### Financial Times, 20/11/00 – Forgers find plastic a tough proposition

Polymer notes are easy to recycle and hard to copy. One day they may supplant paper.

As visitors to the Olympics would have noticed, Australia's banknotes are slightly springy and a little difficult to fold, almost always look bright and new, and have transparent "windows" on them. What is less obvious is that they are very hard to forge.

The fall in counterfeiting has been dramatic: the number of forged notes detected in Australia has dropped to a tenth of the level five years ago and in some client countries there have been no known forgeries at all.

Virginia Marsh

### Observer Magazine, 02/02/01 – Polymer: A revolution in bank notes

'Paper notes are now going to be abandoned in all countries of the world in phases.

It (polymer banknotes) has revolutionised currency circulation around the globe.'

Professor Mohammed Yunus,  
Associate Professor FBA, UTSC

### Het Financieele Dagblad, 22/01/01 – 'Plastic geld' krijgt meer betekenis (English translation: Plastic money gets more significance)

Mr H. de Heij of de Nederlandsche Bank is convinced that it's useful to run a trial with polymer banknotes. 'We've had other things on our mind during the last few years, with the upcoming introduction of the Euro. It wouldn't have been good to burden the public with the

acceptance of the Euro while also changing the substrate material of the new currency. You have to get used to a banknote made of polymer. But it's definitely on the investigation agenda of the European Central Bank,' he said. A spokesman of the European Central Bank has confirmed this and says that polymer banknotes are an option when it's time to replace the first series of paper Euro banknotes, which will go into circulation from next year.

Raoul Leerling

### Fiji Times Weekend, 10/02/01 – A plastic revolution

'It is hard to imagine why a tropical country would remain with paper notes in this day and age.

Tradition and conservative attitudes certainly play a major part in sticking with paper, but sooner or later, our dollars are going to have to move with the times.'

Sophie Foster Hildebrand

# Banking partnership gives New Zealand smooth launch



Gary Wilmshurst,  
Quality Control  
Co-ordinator at  
the Reserve Bank  
of New Zealand  
Currency Office.

**THE NEW ZEALAND EXPERIENCE has shown that a “partnership with all participants involved in the cash industry” is the key to successfully making the change to polymer banknote technology.**

IPCA’s Editor, Saskia Wegman (IPCA), spoke with Gary Wilmshurst (GW), Quality Co-ordinator at the Reserve Bank of New Zealand’s (RBNZ) National Currency Office, about New Zealand’s smooth transition to polymer currency.

**IPCA: Gary, just how successful was the launch?**

**GW:** Well beyond our expectations. We now have a steady flow of enquiries and visitors from around the world coming to see how New Zealand introduced polymer banknotes.

**IPCA: We read in your press statements that a recent survey has confirmed the appeal of polymer banknotes in general.**

**GW:** Yes. The survey, conducted by A.C. Nielson late last year, found that 74 per cent of the public and 90 per cent of retailers preferred the polymer banknotes to their paper predecessors. Durability and cleanliness were the main reasons for their choice.

**IPCA: Was the transition to polymer notes in New Zealand easy?**

**GW:** I wouldn’t say easy, but definitely smooth – it was a gradual process. The first polymer note, \$20, was issued in May 1999, with polymer banknotes for all five circulating denominations introduced in the following 11 months. The polymer banknotes were of the same size and design as the previous issue of paper notes, but colours were brightened and two clear windows were added as security features.

Paper notes have been gradually withdrawn from circulation as each new denomination on polymer has been issued. The transition has been very smooth with wide acceptance of all the polymer notes including the \$10 millennium note with its new design. Survey results showed a definite preference for the brighter colours – with 12 per cent saying they would keep one of the new notes as a souvenir to mark the millennium.

**IPCA: How were the polymer banknotes introduced?**

**GW:** Our strategy was to work closely with all involved in the cash industry, which made a significant contribution to the successful introduction of polymer banknotes.

We held a series of information seminars for cash handlers around the country, providing information on the new notes including handling and processing details. Participants were very enthusiastic about the polymer banknotes and the background information, and in turn were keen to share this information with their customers.



Information seminars for cash handlers were held by the Reserve Bank of New Zealand to enable the smooth transition to polymer banknotes.

There was also wide consultation and sharing of information with companies involved in the servicing of ATMs, note sorting and counting equipment.

**IPCA: What role did the Reserve Bank play in all this?**

**GW:** Importantly, our Currency Operations sector, which is ISO 9002 accredited, provided consistent customer-focussed support for the introduction of polymer banknote technology. The quality management system we had in place was invaluable.

There have been no operational problems since the introduction of the polymer banknotes. Instead we have seen significant gains in currency processing productivity.

**IPCA: What is the experience with counterfeiting?**

**GW:** There have been only three counterfeit attempts of the polymer banknote design – all three of which were produced on paper.

IPCA thanks Gary Wilmshurst and the RBNZ for their contribution. The complete public survey results and other information can be found at [www.rbnz.govt.nz/news](http://www.rbnz.govt.nz/news)

# Commonly asked questions

## Q. Is polymer less effective than paper in maintaining embossing?

A. Because of its resilience, polymer substrate will not emboss as deeply as achievable on paper substrate, but will maintain its embossing for the life of the note. Paper has a much shorter life than polymer as it soon loses its stiffness by being handled.

The embossed feature on a paper banknote has a shorter life as the depth of the emboss is lost when the structure of the cotton fibres is increased in volume. This will start occurring immediately after the banknote is placed into circulation.



The emboss of a new Australian \$50 note.



The same emboss after the note has been in circulation in excess of four years.

## Q. Is the wear on printing ink a concern with longer lasting polymer banknotes?

A. Polymer banknotes have, on average, five times the life span of paper notes depending on the denomination. This is referring to the entire banknote, not just the substrate. Paper notes generally get dirtier and become limp in circulation. Polymer banknotes, in contrast,

become lighter due to ink abrasion and the substrate becomes slightly softer. Because the substrate of polymer notes doesn't have the fibrous structure which breaks down in paper notes, there is a tendency to leave polymer banknotes in circulation for perhaps ten times the lifespan of paper banknotes.

It is under these circumstances that the ink abrasion becomes an issue.

It is therefore important to select an ink system suitable for printing on polymer banknotes. The key is to use inks that match the durability of the substrate.

## Q. Will the generation of electrostatic electricity create machine counting errors?

A. Not in our experience. In fact, we found that all sorting machines have shown an improvement in performance due to the consistency of the polymer banknotes. These improvements are translated into less maintenance, less down time, and tighter control of authentication, as the optical sensors do not get dirty or contaminated.

## Q. Will sensors in ATMs and cash dispensing machines have to be changed for polymer banknotes?

A. They will not have to be changed, but optical sensors may need to be adjusted. When designing polymer banknotes, the clear window is positioned to eliminate sensor problems in ATMs, counting or vending machines.

However, because polymer does not compress as paper does, the thickness settings in machines need to cope with the 'real' thickness for polymer and adjustments have to be made according to the pressure for paper notes. When using paper and polymer simultaneously, the equipment would have to be set with larger tolerances to accommodate both types of banknotes.

# Viewpoint

## WE WERE DELIGHTED WHEN the Central Bank of Kuwait recently chose polymer banknotes for a special issue to mark the 10th Anniversary of the country's liberation from Iraq.

Polymer banknotes are proving to be very adaptable, not only in coping successfully with circulating conditions, but in providing unique opportunities for Central Banks to help promote events of national significance.

In other news, the Currency Conference is being held in Barcelona, 8-11 April, 2001.

The conference will provide an excellent forum for discussions on polymer banknote technology, as Central Banks, banknote industry suppliers and professionals come together to discuss and exchange ideas on currency issues.

We look forward to seeing you there.

John Leckenby  
CEO Note Printing  
Australia Limited  
[www.noteprinting.com](http://www.noteprinting.com)



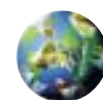
Myles Curtis  
Managing Director  
Securrency Pty Ltd  
[www.securrency.com.au](http://www.securrency.com.au)



## Editor's Note

Back issues of IPCA and further information can be found on the IPCA website: [www.ipca.au.com](http://www.ipca.au.com)

Your questions, comments and feedback are always welcome.



# IPCA

Editor: Saskia Wegman  
E-mail: [saskia.wegman@ipca.au.com](mailto:saskia.wegman@ipca.au.com)