



## Central Bank of Chile introduces a new \$2000 Peso polymer banknote

**T**he Central Bank of Chile issued the new \$2000 Peso polymer banknote on 7 September 2004. The new banknote retains the same design featuring portrait of Manuel Rodriguez on the obverse and Iglesia de los Dominicos (Church of the Dominicans) on the reverse. The banknote is manufactured on Securrency's Guardian® substrate and incorporates a combination of security features unique to polymer technology including two transparent windows, emboss of '2000' and shadow image.

As stated in a press release from the Central Bank of Chile, the improved quality of the banknote ensures a "more resilient" note, resulting "in a longer useful life expectancy.

Because of its increased durability, both the Central Bank and the financial system will save on printing and processing costs".

The new note is also compatible with cash and vending machines and other similar devices.

The polymer \$2000 Peso will be issued alongside the paper \$2000 Peso and will gradually replace the paper banknote.

Incorporating technological innovations that enable the reliability, convenience and efficiency of the banknotes and coins currently circulating in Chile today is part of the Central Bank's initiative to modernise the currency of Chile.

Chile is now the third country to adopt the polymer banknote technology in Latin America, after Brazil and Mexico.



Luis Oscar Herrera (Manager, Financial Policy, Central Bank of Chile), Vittorio Corbo (President, Central Bank of Chile), Iván Montoya (Treasurer, Central Bank of Chile).



Chile's new \$2000 Peso banknote

# Singapore \$10 polymer note issue

**O**n 4 May 2004, the Monetary Authority of Singapore (MAS) introduced \$10 polymer portrait banknotes into circulation. The design of the polymer \$10 note is similar to the existing paper note featuring the portrait of Singapore's first President, the late Encik Yusof bin Ishak on the front and sports' motif on the back.

Changes to the note have been made to incorporate security features unique to polymer technology. Although most of the security features on the \$10 paper note have been retained, some additional features unique to polymer have been included:

- Two Complex Clear Windows – one with transitory emboss
- Shadow Image Portrait
- Stylised Gold Singapore Lion Symbol with TIDE® (Transparent Intaglio Disappearing Effect)
- Security Thread in the shape of Singapore Island
- Diffractive Optical Element (DOE™) with the text "MAS"

The DOE™ is a sophisticated new generation security feature which has been developed for easy recognition and authentication by the public, yet extremely difficult to counterfeit by commonly available technologies. It is a light diffracting structure embedded into a transparent window of Guardian® polymer substrate.

According to MAS, the decision to re-introduce polymer was made to gain greater durability and cleanliness of the notes and therefore greater cost-effectiveness, enhanced security features offering better protection against counterfeiting and improvements in machine processing. "The positive experience in countries that had adopted polymer notes" has been a major factor in the introduction of the \$10 polymer note.

The decision to issue the \$10 denomination was due to the \$10 being widely used in cash payments and dispensed through ATMs and Cash Deposit Machines (CDMs). They can be deposited at all commercial banks in Singapore.



Singapore's new \$10 polymer banknote

# New VND 100,000 polymer for Vietnam

**T**he State Bank of Vietnam (SBV) issued its' third circulating polymer banknote on 1 September 2004. According to Le Duc Thuy (Governor of SBV) the VND 100,000 polymer banknote has been issued to enhance Vietnamese banknote quality and protect against counterfeiting. The existing VND 100,000 paper banknote is the most commonly counterfeited denomination.

Enhanced security features unique to polymer technology produced on the new note include two transparent windows, embossed image, shadow image, optical thread and the DOE™ feature.

The VND 100,000 polymer banknote will gradually replace the existing paper banknote.

SBV introduced Guardian® polymer banknotes in 2003 for its VND 50,000 and VND 500,000 banknotes.



The new VND 100,000 polymer banknote



# Brunei has 5 polymer banknotes in circulation

On 15 July 2004 and in conjunction with His Majesty's 58th birthday celebration, the Brunei Currency Board issued new \$50 and \$100 polymer notes.

The new polymer notes are circulating alongside the existing paper notes with a new portrait of His Majesty Sultan Haji Hassanal Bolkiah, new design and re-colouration.

They have the following security features:

- Complex window with the local motif in white and gold on the \$100 note and the local motif in white for the \$50 note.
- Diffractive Optical Element (DOE™) featuring initials of HB 100 and HB 50

respectively. The DOE™ image is visible when looking through the small transparent window to a point light source such as a down light, candle or the moon.

- Shadow image of His Majesty's portrait and the initial "HB" when the banknote is held up to the light.
- The formation of a flower through a combination of printing on both sides of the note.

The Brunei Currency Board stated that "the issuing of the fifty and one hundred dollar polymer notes enhances security in terms of risk of counterfeiting and offers a better quality service for the public".

Brunei now has five circulating polymer banknotes. The \$1, \$5 and \$10 polymer banknotes were first issued in 1996 and have provided the community with secure, durable and clean banknotes.

Brunei's new \$50 and \$100 polymer banknotes



The \$1, \$5 and \$10 polymer banknotes were issued in 1996



# Polymer.

## Your questions answered

### Q. Have polymer notes been counterfeited?

A. Just about anything that can be made can be counterfeited. But it is more difficult, expensive and more time consuming to counterfeit polymer notes.

The vast majority of counterfeits to date have been colour photocopies on paper with holes or clear plastic inserted in the window position. These are coarse and easily identified.

Polymer banknotes are more difficult to counterfeit because you cannot photocopy or scan a clear window, and toners don't contain white inks. New security features such as the Diffractive Optical Element (DOE™) are extremely difficult to counterfeit.

The rate of casual counterfeiting has been growing for paper notes due to the greater public accessibility to reprographic devices such as scanners and colour printers.

### Q. As polymer notes are more robust than paper notes, could it be more difficult to operate auto shredding (which is connected to a sorting machine) on polymer notes?

A. Polymer notes require about 25 to 30% more energy to shred or granulate. This reflects the fact that the polymer is more robust and has a higher tear initiation resistance than paper. However this is not normally a problem

for modern granulation equipment – the capacities are more than enough to cope with the output of any sorting machine and the same blades are used as for paper.

### Q. Can there be a machine counting error due to electrostatic generation?

A. Not according to our experience. In fact we found that all sorting machines have shown an improvement in their performance due to consistency of the polymer notes. These improvements result in less maintenance, less down time and tighter control of authentication due to the optical sensors remaining clean and not becoming contaminated through soiling.

## International events

Conference	Location	Date	Website
<b>2004-05</b>			
The Future of Secure Documents	Orlando, Florida, USA	December 9-10, 2004	<a href="http://www.piranet.com">www.piranet.com</a>
5th Security Printing & Alternative Solutions in Central/Eastern Europe & Russia/CIS 2005	Moscow, Russia	January 26-27, 2005	<a href="http://www.security-printing.com">www.security-printing.com</a>
Banknote 2005	Washington DC, USA	February 20-23, 2005	<a href="http://www.banknote2005.com">www.banknote2005.com</a>
2nd Pan-European High Security Printing Conference	Kiev, Ukraine	April 20-21, 2005	<a href="http://www.cross-conferences.com">www.cross-conferences.com</a>
2005 Annual Meeting of the World Bank Group & International Monetary Fund	Washington DC, USA	September 26-27, 2005	<a href="http://www.imf.org">www.imf.org</a>
Currency Conference	Montréal Québec, Canada	October 2-5, 2005	<a href="http://www.currencyconference.com">www.currencyconference.com</a>



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