



Kazakhstan is setting records



To be more precise, banknotes from Kazakhstan are often the first to incorporate security features which then, as a result, become popular throughout the world.

On the 1st December 2015 the National Bank of Kazakhstan issued a new 20,000 Tenge banknote. As of today it is Kazakhstan's highest value banknote. The banknote issue was timed to coincide with a national holiday – The Day of the First President of the Republic of Kazakhstan.

In the words of the National Bank of Kazakhstan, “the new banknote is the most highly protected banknote of the current series and also one of the most secure in the world. It draws, for its protection, upon the latest innovations in the field of counterfeit prevention as well as modified and enhanced existing anti-counterfeit features”. In the field of high security printing the banknotes of Kazakhstan are very well known for often being the first to adopt security features which then, as a result, become popular throughout the world.

The 20,000 Tenge banknote is no exception. It is the first banknote in the world to have been printed in large numbers on the Durasafe® substrate, developed by Landqart AG. The substrate consists of two paper layers and one polymer layer that is sandwiched between the paper layers. Such is the composition of the substrate that it enables the use of new security and design features – transparent and semi-transparent windows. Another first is the application of SICPA's colour shifting ink, OVI®, partly on the paper layer and partly over the polymer in the area of the transparent window – Thrusafe®. The SPARK® Origin Openform security feature, which changes its colour from gold to green has been designed in the form of a mythological winged horse. The image has been embossed to add relief. There is one more visible security feature – the colour shifting windowed security thread, Fortrex Shift® which is combined with two semi-transparent windows.

The mythical Samruk bird appears on the banknote three times. First as the watermark, then as the silhouette of the bird in the transparent window, and the image then also appears on the front of the banknote. There are also security features on the banknote that consist of elements of an image that come together to form a whole image on the front of the banknote when viewed in transmitted light. The nominal value of the banknote in the bottom left corner also changes colour when the note is tilted. For the visually impaired seven high relief triangles, that

can be identified by touch, have been printed on the right hand edge of the banknote.

The banknote design has been completed in the same style as the other banknotes of the series that are already in circulation. The front of the banknote is designed on the vertical plane and the back on a horizontal plane.

On the front of the banknote the main motif is the monument “Kazakh Eli”. The historic memorial “Kazakh Eli”, embodying the independence of Kazakhstan, was opened on the eve of the tenth anniversary of the city of Astana. The height of the column is 91 metres, symbolising the year of 1991 when Kazakhstan became a sovereign country. The marble base of the monument signifies the noble thoughts and interracial harmony of the people of Kazakhstan. The column itself which is crowned by the Samruk bird demonstrates the aspiration of the Kazakh people in the future for further development and prosperity. The winged horse has been placed on the left in the upper part of the banknote and is recognised in many cultures, including Turkic and nomadic peoples as a symbol of the purity of light and life, inspiration and fertility, single-mindedness and authority. The triumphal arch “Mengilik El” is situated in the middle at the bottom of the banknote – an architectural embodiment of the idea of an eternally free country, the national idea of a home for all Kazakhs.

On the back of the banknote the main motif in the centre is the outline of the map of Kazakhstan and a skyline view of the capital city, Astana featuring the Akorda buildings, Parliament and Government located in order reflecting the principle of the separation of power established by the constitution of the Republic of Kazakhstan. The dominant colour of the banknote is grey-blue.

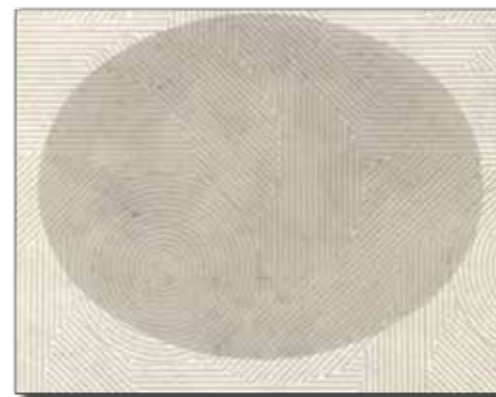
The banknote was printed in Almaty by the Banknote Factory of the National Bank of Kazakhstan. The design work was done in collaboration with specialists from the company Oberthur Fiduciaire. ■

Tatiana BALUEVA

new technologies new possibilities for design



The design of the new Kazakh banknote was created by the Chief Designer of the National Bank of the Republic of Kazakhstan, Mendybay Alin. He explained to the magazine "Watermark" how the work progressed.



– Design work began as soon as the National Bank took the decision to create a new banknote. In this particular instance the timeline for preparation of the new banknote was a long one, it took four years and nine months. As a result the banknote was ready in 2013 but then the launch date was delayed for another two years because of economic reasons.

It turned out to be a complex banknote, in fact five companies worked on its creation. Besides the National Bank of Kazakhstan, Landqart, SICPA, Giesecke & Devrient and Oberthur Fiduciaire were involved. Some technologies were used on this banknote for the first time in the world.

Thus our banknote became the first circulation note to be printed on the Durasafe® substrate. The substrate consists of three layers that allow the creation of unique features, transparent and semi-transparent windows on the banknote. What is really interesting is that the banknote has tactile areas. The outer layers of the substrate are paper, therefore people treat it like a paper note, but the polymer layer provides additional opportunities for security. I believe that this substrate has a promising future.

– **Am I correct in thinking that this is not the National Bank's first experience of working with Landqart and its substrate, Durasafe®?**

– Yes. In Kazakhstan we go through several stages before issuing a banknote to enable us to test various materials and to master technologies. First of all we issue "house notes". In the case of the Durasafe substrate we issued a house note "Blue Bird". The production of this house note at the Banknote Factory of the National Bank of Kazakhstan demonstrated the suitability of the substrate and other design elements. After that the 20,000 Tenge banknote was produced.

– **So that means that it was not too difficult for the designers and technologists to work with this unfamiliar substrate?**

– We worked through the technical challenges with this substrate by issuing the house note, nevertheless first of all for every banknote it is necessary to re-set the technical parameters of the printing presses and other equipment and secondly when you start mass production the new product really shows its character. It is like crossing the Rubicon.

– **As the banknote was printed on the Durasafe substrate, it was planned to have transparent and semi-transparent windows on the note from the begin-**

ning. As the designer of the banknote did that make you task easier or more difficult?

– New technologies oblige us to seek new solutions and push out the boundaries of design. When I am faced with an unexpected task, it really gets me going and stimulates me to search for new solutions. Windows are a new security feature which we have to incorporate into the design. They make it possible to have a flight of fantasy, even on such a small piece of paper and as a result we end up with a new level of security for banknotes. However creating the design with a window is the least of the challenges. The feature has to pass a series of tests and inspections and only when everything is deemed to be working can you call it a success.

– **Does your experience of working on paper banknotes differ from your experience of working with this substrate?**

– I really like to work with new materials. If you only work with paper, then the technology is actually standardised and the work of the artist becomes routine. But then new materials appear, be they new inks, new technologies and new aspects of work. I think that banknote materials will carry on improving over time and I am really pleased about that.

One of the interesting aspects of the Durasafe® substrate is that one of the outer layers of paper can be white and the other grey. This is a unique characteristic of this banknote. Of course the application of the offset inks complicates this factor; nevertheless it remains a powerful contrast in colours. It is helpful for the general public as you cannot confuse this banknote with another. It is also important for security as it is not easy to counterfeit such an effect.

– **Which other innovative security features are incorporated into the new banknote?**

– Traditionally we use a windowed colour shifting security thread on our Tenge banknotes. But this time we have incorporated the colour shifting thread with other elements. It is combined with semi-transparent windows and the signature of the President of Kazakhstan has been added to the thread.

There is another innovation involving the SPARK element (colour shifting ink in the shape of the mythical winged horse). The SPARK element has been embossed giving the surface of the feature tactility.

It is interesting that a new colour shifting ink printed in the form of a Kazakh ornamental pattern has been partially applied over the transparent win-



dow. This ink should adhere to both the paper and polymer surfaces and perform equally well on both surfaces.

– Please tell me something about the design theme of the banknote.

– This denomination is a continuation of the fourth series of the currency of Kazakhstan. The principle theme of this series is the unity of the Kazakh peoples and the unifying idea is peace and friendship between peoples. We sought to ensure that the banknote design reflected these themes.

During the creation of the design we sought to maintain and follow the overall harmony and layout of the other four notes of the design series. The front of the note features the “Kazakh Eli” (The Kazakh Nation) monument which is the symbol of Kazakhstan and the triumphal arch “Mengilik El” (Immortal Country). All those who travel to Astana, the capital city of Kazakhstan, see this. It is a symbol of the unit of the nation. On the back of the banknote set in the outline map of Kazakhstan is a skyline of Astana. On the previous denominations of this series other significant buildings, monuments and landscapes of Kazakhstan were used.

The dominant colour of the banknote is grey-blue. It is a fair observation to make that contrasting colours have become the fashion on the new series of Kazakh banknotes. Sometimes banknotes of the previous series had similar colours and it was possible for members of the public to confuse them. After that the National Bank decided to issue notes with very distinctive colours. So the 1000 Tenge is a gold colour, the 2000 Tenge a bright green colour, the 5000 Tenge a red colour and the 10,000 Tenge a purple colour. And now we have added a grey-blue colour.

The new banknote is a little longer than the 10,000 Tenge note, although it retains the same height. Its size is 155mm by 79mm.

– Is the banknote already in circulation?

– Yes, it is already circulating from the 1st December 2015 and actually for the first time in my 25 year career with the National Bank the general public reacted in a loyal and generous way to the issue of the new note. However, after two devaluations people are more likely thinking of the economic value of the denomination.

Nevertheless after my work with the National Bank I have come to understand that subconsciously people like it when banknotes are renewed – it is seen as a sign of progress.

Now the new banknote will continue its life journey without me. I hope that it will proceed well as it passed all of the tests. Nevertheless during the course of the next year I will remain alert because I consider it like a child who has to go out into the wider world and find its place. ■



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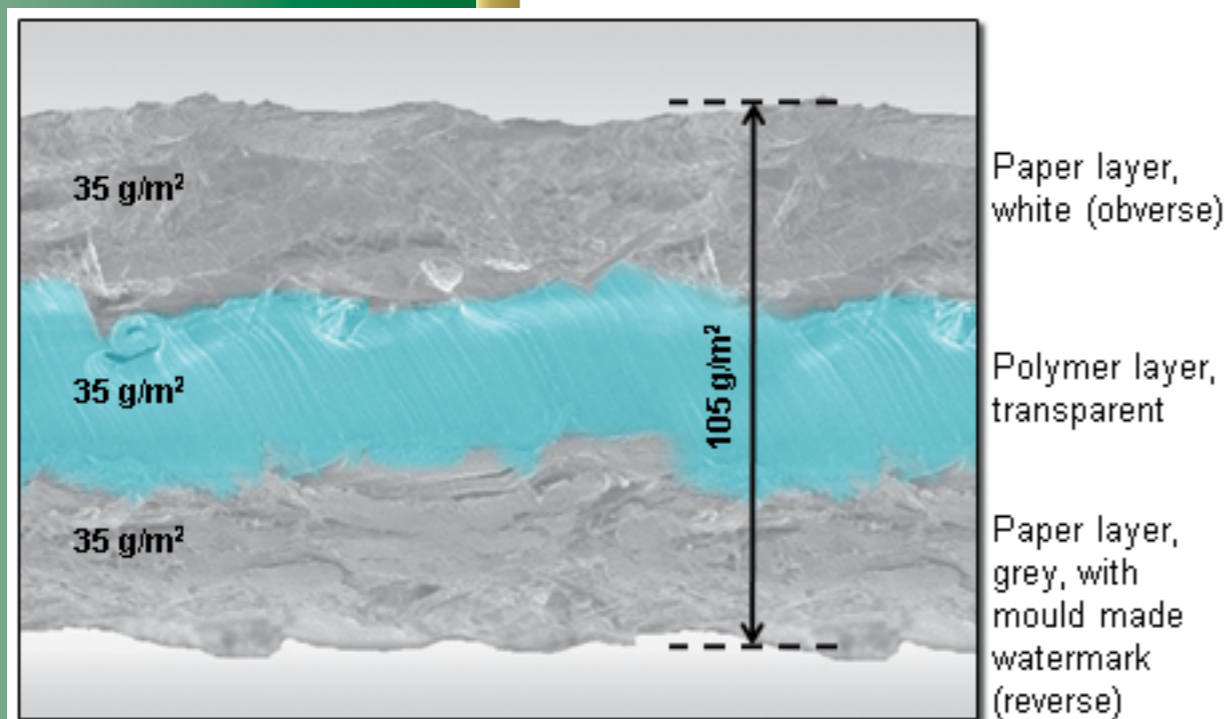
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Three layers and four windows



Muriel Schuler, product manager at Landqart AG, told the magazine *Watermark* about the Durasafe® substrate and its use in the production of the 20,000 Tenge banknote.

– The National Bank of Kazakhstan was the first to print a large volume of banknotes on the Durasafe® substrate and we were happy to collaborate with the specialists from the National Bank to create the 20,000 Tenge banknote. The National Bank of Kazakhstan again demonstrated its leadership in the adoption of new banknote technologies by opting to use the three layered substrate for its new Tenge denomination which both allows new design possibilities and makes the banknote more secure.

– Please tell us in more detail about the specification of the substrate.

– The Durasafe® substrate consists of three layers; and each of these layers has its own colour. White on the front, grey on the back, and in the middle a transparent polymer. This increases the contrast between the colours and affords many interesting design possibilities.

The grey paper layer is exposed to view on the front of the banknote through the half window in the white paper and the white paper layer is visible from the back of the note through the half window in the grey paper layer. For additional security each paper layer contains security fibres.

In addition to that, the substrate allows you to place fully transparent windows in virtually any place on the banknote as well as the more traditional security features such as security threads and watermarks. You can also print on or emboss the transparent window – these are the security features that are associated with the Durasafe® substrate.

– How many windows are on the 20,000 Tenge denomination?

– There are a total of four windows on the banknote which are formed using one or both of the outer paper layers. Three of them are Viewsafe® half windows. One of the half windows is oval shaped and frames the Samruk

watermark. The watermark is visible in the grey layer of paper through the half window on the front of the banknote.

Two other half windows are triangular in shape. They protect and draw attention to the colour shifting security thread. In this case a large part of the thread is exposed to view, but at the same time it is protected from damage and soiling in circulation. The remaining part of the thread is fully embedded in the substrate and is only visible in transmitted light.

The fourth window, Thrusafe®, is fully transparent. It is formed by the creation of windows on both outer layers of the paper in the same position. In those areas where these windows do not overlap exactly, the colour of the paper on the opposite side shows through. So if you look at the banknote from the back, you will see a white halo outline around the transparent form of the flying bird. The transparent window draws particular attention to the ornamental design that is printed in colour shifting ink on the window and is visible from both sides.

Such security features allow the general public to recognise the banknote easily and to establish its authenticity as well as strengthening its protection against the threat of counterfeit and increasing its resistance to soiling in circulation, thereby extending note life.

– Which other banknotes of the world have been printed on Durasafe®?

– In 2012 Morocco issued a banknote printed on Durasafe®. However the volume of the 25 Dirham denomination was limited to 5 million pieces.

On the 12 April 2016, the National Bank of Switzerland will issue the first denomination of its new ninth series. The denomination will be the CHF50 and it will also be printed on the Durasafe® substrate. ■