



Water-based Ink Ensures Maximum Security for Demax Lottery Cards

Demax DPI AD is Bulgaria's largest producer of instant lottery games. Operating from a production facility in Sofia, Demax oversees the entire production cycle for lottery cards – from electronic data processing through to the printing and packaging of the final product. Production utilises a blend of offset, digital, flexo, and screen printing technologies, and is conducted under the constant supervision of the Ministry of Finance.



Domino Printing Sciences (Domino) has collaborated with Demax for over 20 years, through Arcon, a Domino distributor and international provider of high-quality industrial equipment. Domino and Arcon have provided a digital printer for variable data printing (VDP) on lottery scratch cards, as part of a solution that shortened the production timeframe from three weeks to merely two days. This innovation has facilitated additional capacity to support Demax's growth beyond Bulgaria.



Fast Facts

- AQ97BK is a new fast-drying water-based ink specifically designed for improved adhesion compared to standard water-based inks. It is capable of printing on coated papers, glossy media, and Tyvek® substrates often without the need for high energy NIR dryers.
- Demax used the water-based AQ97BK ink to enhance the security of their printed lottery cards. This fast-drying water-based ink replaced UV ink for variable data printing on each individual card. The K600i-based installation prints over 100 million cards annually.
- Demax AD serves clients from the food, pharmaceuticals, cosmetics, chemicals, transport, and advertising industries.
- Demax AD is the largest Bulgarian producer of forms, securities, and licensed production documents, all under constant on-site supervision by the Ministry of Finance. Demax's services include hot stamping, holographic products, embossing, screen printing, and graphic design.





Project Background

Demax approached Arcon as they required a quick-drying water-based solution for printing on lottery cards. The current solution was not drying in line with the existing production line speeds. UV ink was not an option, as the UV inks can leave a slight raised print which can be problematic for security. For lottery cards, it is essential that the prize remains a mystery.



The Domino Difference – Utilising the Benefits of Water-based Ink

Domino needed to deliver a water-based VDP solution that matched the proven print quality and stability of its UV-based printers.

Domino's newest hybrid solvent (water-based) ink, AQ97BK, and the K600i monochrome printer had already demonstrated their capability in other industries to dry quickly without compromising print quality. The high-resolution hybrid digital press employs drop-on-demand technology, ensuring that the ink does not dry while idle in the printhead. However, once printed, it must be 100% dry within a very short time frame to prevent smudging the rollers of the press. The new AQ97BK water-based ink boasts a very rapid drying time, making it ideal for this type of application.



With AQ97BK, the production line was able to maintain dependable, fast speeds of 60m/min, ensuring consistent productivity. Demax is currently operating five K600i units and plans to expand the use of this solution to other parts of its production line in the near future, in accordance with its current expansion plans.

“Working with Domino and Arcon has been an ideal relationship. Their support, consultancy, and advice are outstanding, and Domino’s water-based ink with a quick drying time is ideal for our requirements, reinforcing their reputation for high quality. I would have no hesitation in recommending them,” says Ivan Nestorov, Technical Director at Demax.



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