

What a gem!

Diamond is a new range of free radical, UV-cured inks, specifically formulated for printing on to polymer film. Among its advantages are fast curing speeds and excellent end-user properties.

To celebrate 25 years in business as an independent ink manufacturer of solvent, water and UV-based inks for the flexographic industry, Mirage Inks will launch a completely new range of free radical UV cured inks, Diamond. This new ink series consists of Diamond Standard, for general purpose printing on to plastic films, and Diamond Shrink, specifically formulated for printing onto PVC and PET shrinkable films, as used in the shrink sleeve industry.

The Diamond Shrink range of inks are designed to give minimal impact on the thermal properties of the substrate, for example, to give uniform shrink even when low levels of thermal energy are applied (particularly crucial when shrinkable films are used to sleeve heat-sensitive plastic containers).

NEW OPPORTUNITIES

Excellent end use properties and fast curing speeds mark this technology as an ideal complement to Mirage's well proven Quartz cationic UV ink range.

'It has been extensively trialled with several large users during the final quarter of 2007 with very positive and favourable comments,' says Mirage's managing director Steve Fisher. 'We have never deliberately aligned Mirage specifically to the narrow web market as our original customer base, 25 years ago, was predominantly wide web flexo.'

There has been much innovation from the narrow web market recently and the development of the Diamond ink range provides Mirage with an exciting opportunity. Mirage is renowned as an innovator within the UV sector and is seen by many as market leaders in the cationic UV field. Diamond provides Mirage with a unique advantage over its competitors by developing and manufacturing own brand technology covering both free radical and cationic UV chemistry.

The development has taken the Mirage UV team the best part of 2007 to formulate, taking into account specific requirements from individual customers where improvements were sought.

'The Diamond product range will undoubtedly complement our existing Quartz cationic UV cured products,' says Steve Millen, Mirage's head of technical. 'It will also provide our customer base with a clear choice regarding which technology they would prefer to adopt. We can now consider all customer

objectives, without prejudice to either cationic or free radical technology and be confident of providing a tailored package.'

This is seen as a significant period for Mirage's development team. In November 2007, Mirage demonstrated the capability of an improved cationic UV ink system, achieving curing speeds of 270m/min on a ten-colour Gidue Athena press at their Milan plant. Several polymer substrates were included in the print demonstration including PVDC-coated polyester, OPA and metallised PET. Immediate end use properties were evident at speeds in excess of 250m per minute including excellent adhesion, solvent resistance, tape, wrinkle and scratch resistance. Tracey Young, UV chemist and coordinator of UV products, attended the demonstration over three days.

'We witnessed the high running speeds under normal conditions on the Gidue Athena ten-colour 750mm wide press,' she says. 'Although no corona treatment was available on the press during the tests, the adhesion and resistance properties achieved at these speeds were remarkable.'

PRINT TO SUIT

There is a place for both free radical and cationic technologies, depending on the end use application and performance criteria expected both on and off press. Already within the shrink sleeve market some companies have successfully adopted either cationic or free radical technologies. This emphasises that there is neither a right nor wrong technology, as both can play a significant role in the future of UV printing. For the first time in Mirage's history it has a first-class range of products covering both UV technologies, and it can now advise customers specifically on their particular requirements.

While cationic technology still remains the system of choice for food packaging applications, other companies choose to print with free radical product in this sector. It becomes crucial that the ink suppliers keep themselves and their customers fully informed of potential migration issues and continue to formulate inks that are fit for purpose and comply with industry needs.

In addition to Mirage's already acquired quality status as an ISO 9001-approved company and its certification to the BRC/IOP Global Standard for Food Packaging and Other

Packaging Materials, it is seeking to implement the environmental standard ISO 14001 by the end of 2008. [pci](#)

Further information

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