

INX labs and ISEGA conduct tests on SpeedyDry ink-drying additive

Posted by Tony Curcio on April 26, 2013

Tighter regulations in Canada and worldwide recently have resulted in new barrier coating technologies that add significant costs to paperboards used for food packaging. Some of these coatings interfere with normal ink-drying times and result in increasing costs, slower delivery and print quality problems.

And while previous tests have confirmed SpeedyDry's ability to cut ink-drying time by 75% or more, its manufacturer, Genesis LLC, decided to have the product re-tested recently. A series of migration tests conducted over the past several years showed that results are acceptable with SpeedyDry at up to 20% of the ink mixture using various food packaging substrates including polyboard and recycled SBS (solid bleached sulfate) boards.

However, as recently as this past February, tests were conducted using Metsä Board's 240 gram Simcote coated folding boxboard. The polyboard and SBS tests for fatty-acid migration were conducted by INX International at its R&D labs in Chicago, IL. The inks were run under normal manufacturing conditions by a major packaging printer. The migration testing used the approved fatty foods simulant of 95% ethanol in water at 40 degrees centigrade for 10 days. Gas chromatography testing with several meat and vegetable products showed that both fatty acids and fatty acid esters remained well below the 6 ppm requirements of most national and international regulations.



The most recent testing by ISEGA in Germany was evaluated for hard-water (cobalt and manganese) migration as well as mineral-oil migration. ISEGA is one of only a few labs in the world that can do hard water (heavy metals) migration testing. The mineral oil testing included both the MOSH (paraffinic, naphthenic mineral oil hydrocarbons) and MOAH (aromatic mineral oil hydrocarbons) types.

Gas chromatography results showed that cobalt migration with all samples was lower than 0.05 mg/kg of foodstuff, and that the transfer onto dry foodstuffs would be significantly lower. Manganese in all samples ranged from 0.75 – 0.25 mg/kg (a non-detectable level) of foodstuff. The migration of mineral oils in all samples tested was well below the German regulations of 0.6 mg/kg MOSH and 0.15 mg/kg MOAH.

The ISEGA tests showed that the tested board grades printed using up to 20% SpeedyDry in the ink were well within

current German regulations. Most importantly, these regulations meet or exceed those in most other countries for mineral-oil migration and may be used for food packaging, says Genesis. ISEGA also noted that food-packaging materials printed with SpeedyDry may come into direct contact with dry, non-fatty foodstuffs on their non-printed sides. Contact with the non-lacquered side with fatty foodstuffs was also acceptable.

SpeedDry works with most types of ink, attaches itself to the pigment and varnishes in the ink, and then attaches to the substrate. Its properties create a chemical reaction that allows drying from top to bottom and side to side at the same time. It not only speeds drying times by up to 75% in some applications, says Genesis, but also enhances ink gloss and increases adhesion of the ink on most hard-to-print substrates (including various plastics), while increasing rub resistance and eliminating chalking.

More information: www.speedydry.com.

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