

PURE – the nature of ink

The new ink technology for offset printing

PURE is a totally new ink system. PURE inks abstain from toxic substances for the protection of employees and consumers, from fossil carbons for the protection of the atmosphere and from soy, coconut and palm oil for the protection of tropical rain forests.

PURE is mineral oil free. The binding agents are based on 100 per cent natural substances without any further chemical modifications or syntheses. We do not use palm, coconut or soy oils which are mainly responsible for deforestation of tropical rain forests. Additionally, we abstain completely from the use of photo initiators, metal dryers such as cobalt, and other metal soaps. Therefore, PURE is the purest and most sustainable ink system you can use today.

Technologically, PURE is a new, third and unique ink technology. The ink film is generated by a chemical reaction on the substrate, induced by the absorption of the liquid components. By this reaction, further processes such as folding or laminating can be done in a much shorter time.

PURE is free of labelling, proving the environmentally friendly and health-protecting character of the ink. The fast and resource-saving use of the natural ink saves the printer time and costs. The absorption of the odour-free ink adds to the quality assurance in printing. In comparison with conventional printing, which requires considerable drying times before finishing is possible, jobs can be processed much faster.

PURE has a high abrasion resistance.

PURE comprises the complete colour palette including metallic inks and varnishes.

PURE process inks meet the demands for the printing of food packages. The PURE ink system is „Cradle-to-Cradle“ Gold certified.

PURE inks: sustainable, renewable and fast drying

PURE enters the market after extensive tests, with printing information and recommendations for printing materials. This bundle comprises roller coatings, blankets, washing agents and fountain solutions. In this fine-tuned environment, the unique drying mechanism of PURE can fully unfold.

The PURE series is duct stable and suitable for straight and perfecting printing. It dries quickly and enables fast finishing.

As a modern ink series, PURE enables the printer to meet the requirements of ISO 12647-2 and a neutral grey balance. Due to its fast drying, images appear very plastic, especially on absorbing substrates.

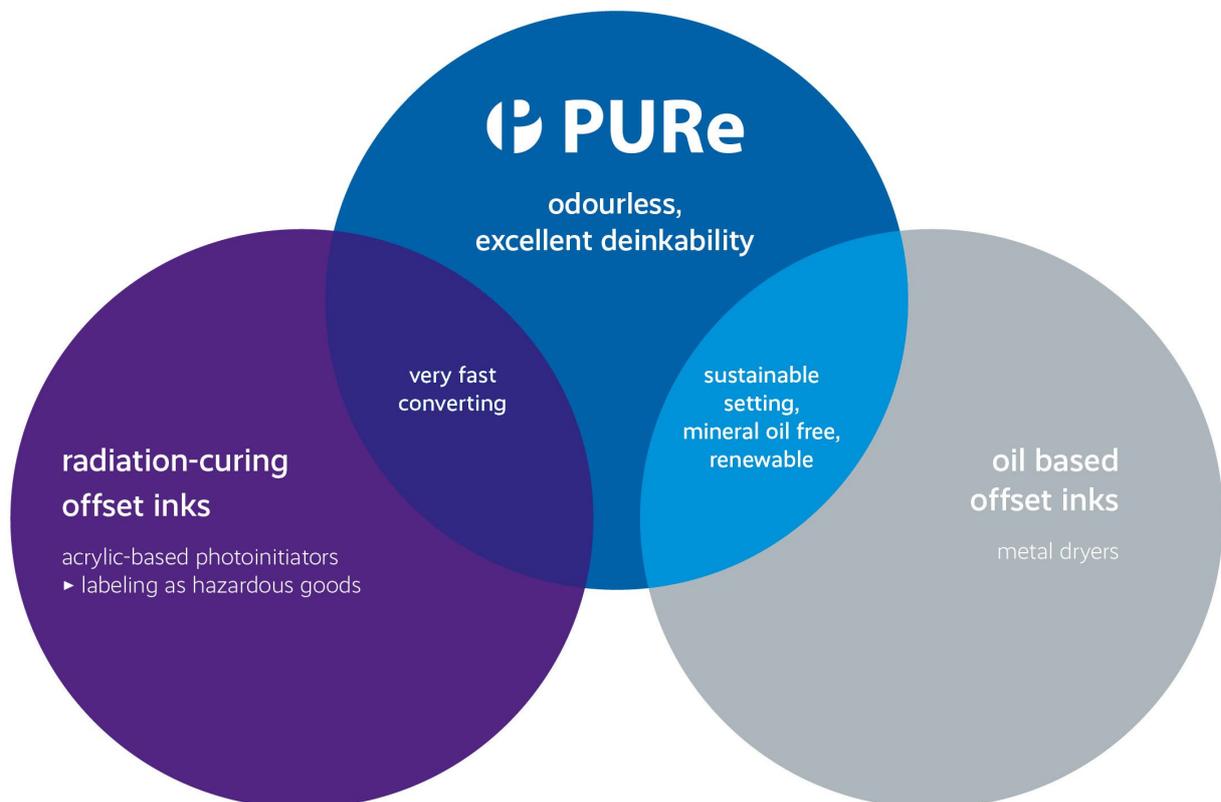
Due to the reactivity of PURE, it has to be secured that PURE is not mixed with other ink systems and non-recommended additives (washing agents, dilutors etc.) as this could lead to spontaneous hardening, also inside the press.



Swelling tests with roller materials show the best results with mixed roller qualities. We have positive experiences with roller materials from well-known manufacturers. Tests and productive use of conventional roller materials should normally be successful. UV roller coatings may not be used as they tend to strong swelling in combination with the PURE ink system.

Comparison of PURE ink technology with other offset systems

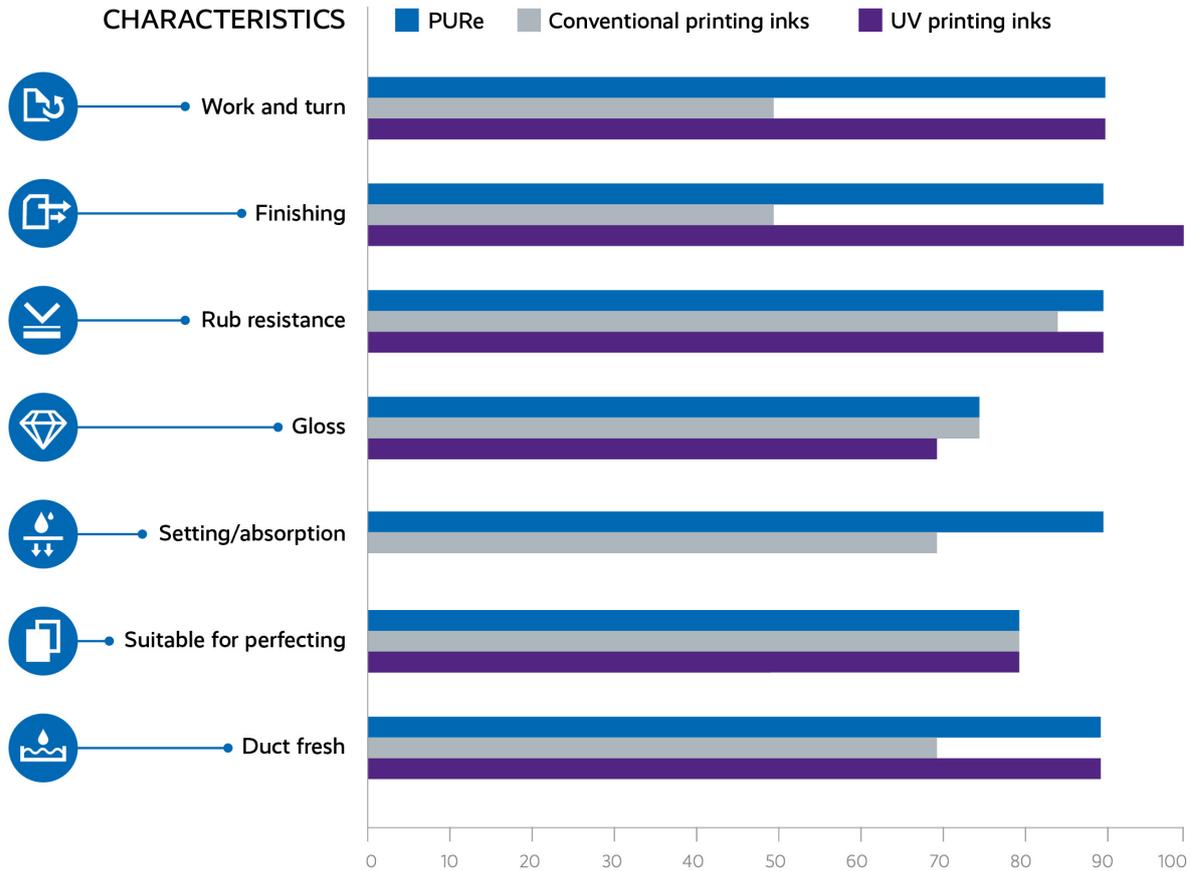
PURE unites the advantages of radiation-curing offset inks (fast drying) and conventional mineral-oil free offset inks (sustainability). Moreover, it sets a new benchmark in the use of sustainable raw materials in offset inks.



There are now three instead of two ink systems for sheetfed offset. As a unique, third system, PURE combines the advantages of existing offset inks: oil-based inks have reached a high degree of sustainability and dominate the market. Radiation-curing inks can be processed faster but require considerable investment in technology. PURE as a new technology offers completely sustainable recipes, fast finishing and contains no metal dryers, photo initiators and palm, coconut or soy oils.

Finishing of PURE printed products is versatile and flexible due to its excellent carbonating behaviour. Options are manifold: hot and cold foil embossing, laminating and coating are possible in very high qualities.

Product Information



In its properties with regard to work-and-turn, finishing and duct stability, the PRe series outmatches conventional oil-based systems by far.

Fastnesses

	No.	Light	Sprit	Nitro	Alcali
PRe C	1007C	8	+	+	+
PRe M	1006M	5	+	+	-
PRe Y	1005Y	5	+	+	+
PRe K	1008K	8	+	+	+

Deinking

Print products from recycled paper achieve much lower consumption of resources, water and energy usage than paper products with predominantly virgin fibres. For graphic papers, in its self-commitment the industry guarantees a quota of 80 per cent for long-term material utilisation. According to the current packaging law, sales packaging must have a recycling quota of 85%, from 2022 even a minimum of 90%.

Deinkability is an essential prerequisite for recycling of print products. INGEDE Method 11 is based on the following classification:

Score	Evaluation of Deinkability
71 – 100 points	Good
51 – 70 points	Satisfying
0 – 50 points	Sufficient
Negative (min. 1 threshold value not fulfilled)	Not suitable for deinking

Definition Deinking behaviour: Print products count as verifiably deinkable if they meet the guidelines of the „Deinkability Scorecard“ according to INGEDE test methods.

The different sheetfed offset ink technologies show very different deinking behaviour:

- Radiation-curing systems such as UV-EB, UV-LED, are generally not suited for deinking.
- Conventional oil-based printing inks on coated papers normally reach a score of 95 – 100 points (highest value) which is a “good deinkability”. However, in combination with uncoated papers, conventional inks have a much worse deinking behaviour: score values lie around 70 – 75 points. Together with a much lower rate of yield (<65% as a critical value for positive rating), they are rated as “not suitable for deinking”.
- The new PURE technology combines very good deinkability characteristics on coated and uncoated papers. Score values lie at 92 to 100%.