

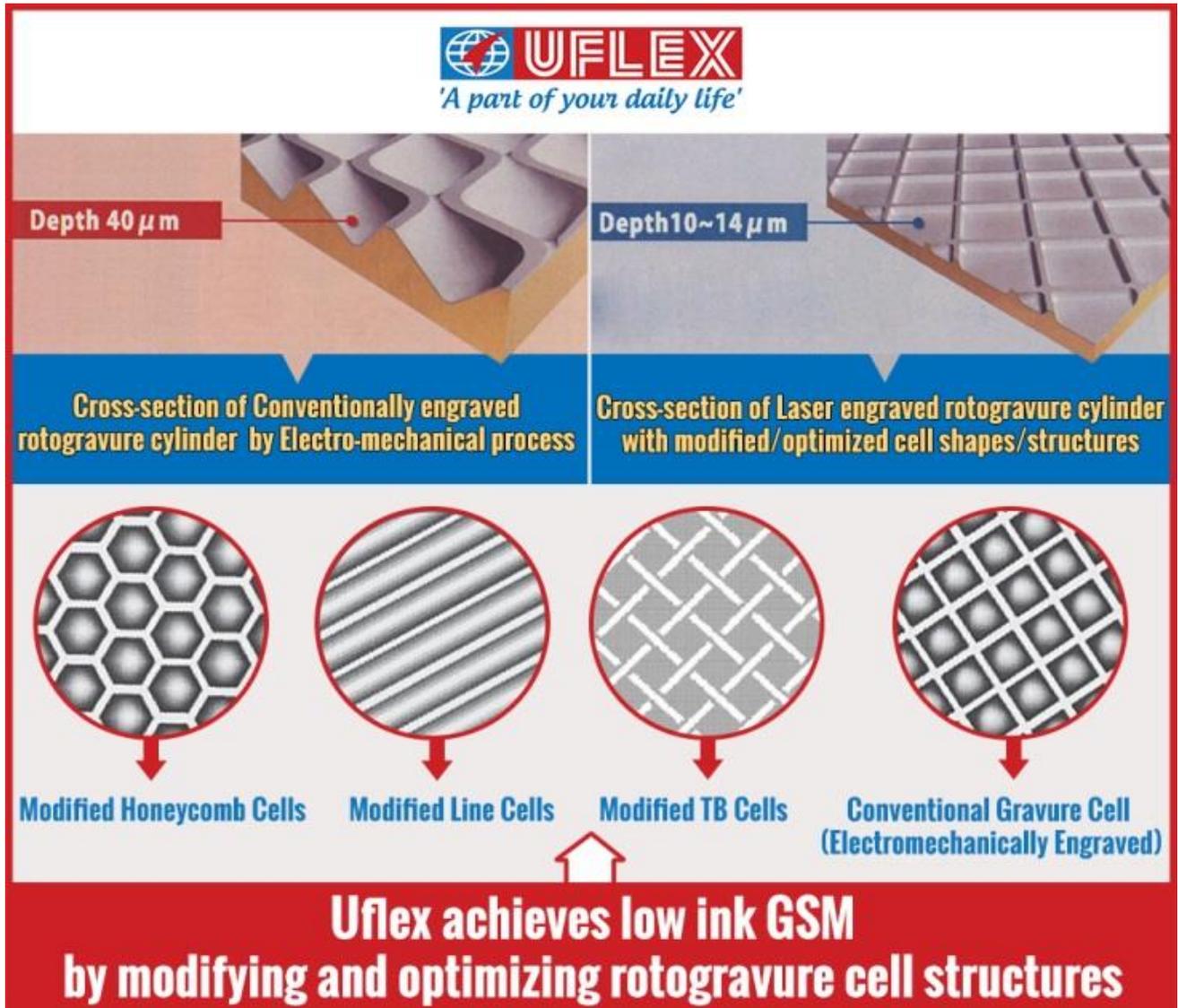
PRESS RELEASE

Uflex achieves low ink GSM by modifying and optimizing rotogravure cell structures

Noida, 05 June 2017: Convertors of Flexible Packaging get a reason to cheer!

Cylinders Business of India's largest multinational flexible packaging materials and solution company Uflex Limited after an intense R&D of almost three years has been able to optimize cell structures of **laser engraved rotogravure cylinders** to an extent that can actually result in about 20-25% less ink consumption than what the **electro-mechanically engraved counterpart** would require in order to render the same image resolution and enhancement. (In fact the printing output by a laser engraved cylinder is much enhanced and high definition compared to printing by an electro-mechanically engraved cylinder.)

Unlike Electro-mechanical engraving which produces a conventional cell shape, Laser engraving offers immense flexibility towards altering cell shapes and structures for the rotogravure cylinders. This is the fundamental reason that results in low ink GSM while printing on the substrate.



To understand this point better, it is rather important to have a quick recapitulation about the roll the typical cells of a rotogravure cylinder play during the printing process: The ink is picked up by the cylinder and transferred on to the substrate. The rotogravure cylinder is immersed in the ink sump and during the process of printing the recessed (engraved) cells pick up the ink. The substrate gets sandwiched between the impression roller and the gravure cylinder. At this juncture the ink gets transferred from recessed cells to the substrate by capillary action.

Explaining the recent break-through of lesser ink consumption in rotogravure printing, Mr. P.K. Agarwal, Joint President, Cylinders Business, Uflex Limited said, *“On the laser engraving set-up, our team has been able to create various modifications on honeycomb cell structure, line cell structure, TB cell structure and others which in turn during the print run render solid backgrounds, coating with high & low depths, other specialized coatings, vignettes, half tone images among several others.*

Typical cross-sections of an electro-mechanically engraved cylinder having conventional cell structure and a laser engraved rotogravure cylinder having modified/ optimized cell structure are shown herein below.”

Mr. Agarwal continues, *“It is all about the shape and structures of the cells that we have been able to modify and optimize through the process of laser engraving. This is not possible in electro-mechanical engraving which can only produce conventional cell shape/structure.*

*From the cross sectional images one can clearly understand that the volume of ink entrapped in the conventional cell structure achieved through electro-mechanical engraving is **much more** than that in the modified/optimized cell structure achieved by laser engraving. Further, the face opening of the laser engraved cell structure is **much more** than the conventional cell structure hence less volume of ink is transferred on larger area of substrate. So, effectively you get more print coverage with lesser amount of ink by laser engraved cylinder having modified/optimized cell shape/structure.*

We carried out a comparison test under Standard Operating Conditions (for the same printing job) with White Solvent Ink (for continuous tone) using an electro-mechanically engraved rotogravure cylinder having conventional cell shape/structure and a laser engraved cylinder having modified/ optimized cell structure. The viscosity of ink used was 14 Saybolt Seconds in both the cases. The results in terms of ink saving have been extremely impressive. The ink consumption in the second case was almost 22.5% less than that in the electromechanically engraved cylinder having conventional cell shape/structure. This is quite a feat in terms of savings towards the running costs incurred by a convertor of flexible packaging”, concluded Mr. P.K. Agarwal.

Cylinder Type	Resolution	Cell Depth	Cell Shape	Ink Consumption	Saving
Electromechanically engraved	175 LPI	40 microns	Conventional	53.00 Kg	-
Laser engraved	175 LPI	15 microns	Modified/ Optimized Honey Comb	41.06 Kg	22.51%

Clearly the advantages of using laser engraved rotogravure cylinders having modified/ optimized cell structure are:

- Lesser solvent consumption for preparing the ink for printing;
- Low CO₂ emission;
- Lower power consumption by the printing press;
- Better printability i.e. exact dot gain is achieved.

Commenting about this achievement, Mr. Ashok Chaturvedi, Chairman & Managing Director, Uflex Limited said, ***"This is a classic case of process improvement for the converting fraternity of flexible packaging. I am glad that making the most of the laser engraving technology my team of engineers at Cylinders Business has been able to modify and optimize the cell structures of the rotogravure cylinder thereby bringing a substantive reduction in ink consumption during printing. Not only does this bring down the operating costs of the converters but also makes the printing process reasonably eco-friendly. I congratulate Team Uflex for successfully achieving low ink GSM for rotogravure printing."***

About Uflex

Uflex is India's largest multinational flexible packaging materials and Solution Company and an emerging global player. Since its inception back in 1985, Uflex has grown from strength to strength to evolve as a truly Indian Multinational with consumers spread across the world. Uflex today has state-of-the-art packaging facilities at multiple locations in India with installed capacity of around 100,000 TPA and has packaging film manufacturing facilities in India, UAE, Mexico Egypt, Poland and USA with cumulative installed capacity in excess of 337,000 TPA.

All Uflex plants are accredited with ISO 9001, 14001, HACCP & BRC certifications. Uflex caters to markets spanning across the globe in over 140 countries like USA, Canada, South American countries, UK and other European Countries, Russia, South Africa, CIS, Asian and African nations. Integrated within its core business profile are allied businesses like Engineering, Cylinders, Holography and Chemicals which further give Uflex a superior edge above competition.

Uflex Limited is also a part of the D&B Global Database and winner of various prestigious national and international awards for its products' excellence. Uflex offers technologically superior packaging solutions for a wide variety of products such as snack foods, candy and confectionery, sugar, rice & other cereals, beverages, tea & coffee, dessert mixes, noodles, wheat flour, soaps and detergents, shampoos & conditioners, vegetable oil, spices, marinades & pastes, cheese & dairy products, frozen food, sea food, meat, anti-fog, pet food, pharmaceuticals, contraceptives, garden fertilizers and plant nutrients, motor oil and lubricants, automotive and engineering components etc.

Some of Uflex's clients on the global turf include P&G, PepsiCo; Tata Global; Mondelez, L' Oreal, Britannia, Haldiram's, Amul, Kimberly Clark, Ferro Rocher, Perfetti, GSK, Nestle, Agrotech Foods, Coca Cola, Wrigley, Johnson & Johnson among others.

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